

THE CHEMIST AND DRUGGIST

ESTAB 1859

REGISTERED AS A NEWSPAPER

TELEPHONE: CENTRAL 3617
TELEGRAMS: "CHEMICUS,
CANNON, LONDON" (2 Words)

PUBLISHED WEEKLY AT 42 CANNON ST., LONDON, E.C.4.

SUBSCRIPTION WITH
DIARY 20/- PER ANNUM.
SINGLE COPIES 9d.

No. 2396.

DECEMBER 26, 1925.

Vol. CIII.

*Country coaches starting from hard by Lombard Street
in ye City of London, bearing passengers for divers
places in ye country and letters of Greekyngs from ye
founder of ye Olde Plough Court Pharmacy to his pharmacist
friends in many different towns. Xmas 1715*



*and on this, the 211th Xmas of the firm,
The Directors of*

Allen & Hanburys Ltd

*take great pleasure in wishing their
Pharmacist Friends all over the World*

A Merry Xmas & A Prosperous New Year.

Old Plough Court, Lombard St., E.C.3.

1715

TRADE MARK

A.D. 1715

1926

THE
MORNY
 "DAYLIGHT MAKE-UP"
 CREAM
 CRÈME de JOUR "FANTAISIE"

Issued in
 STOP-
 PERED
 SATIN-
 FINISHED
 GLASS
 JARS
 of original
 design,
 each in
 Carton,
 retailing at
5/-



Issued in
 STOP-
 PERED
 SATIN-
 FINISHED
 GLASS
 JARS
 of original
 design,
 each in
 Carton,
 retailing at
5/-

SUBJECT TO USUAL TERMS

The MORNY "DAYLIGHT MAKE-UP" CREAM has an entirely distinct character and properties to the other Morny DAY CREAMS. It is less fluid in consistency, and is tinted a delicate rose colour. In addition it contains a special powder ingredient which gives the skin of the face and neck that velvety matt texture so much in vogue.

Apply for full Price List and Terms to—

MORNY FRÈRES, 6 NEW BURLINGTON
LIMITED, STREET, LONDON, W.1

“THE WIGGLESWORTH WAY”

whether we are
acquainted or
not, wishes you

A Jolly Christmas

and a

New Year

in which you'll find

The *Joy* of being alive.

The *Spice* in endeavour.

The *Sport* of selling.

The *Pride* of achievement.

The *Secret* of goodwill.

WIGGLESWORTH LTD.

*Manufacturers and Packers of
Pharmaceutical Specialities,*

WESTHOUGHTON.

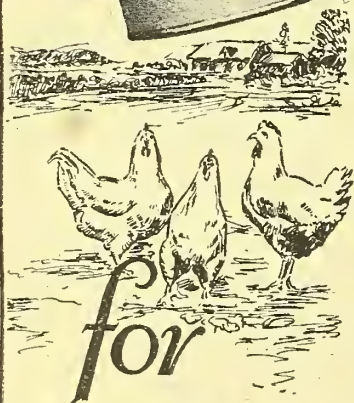
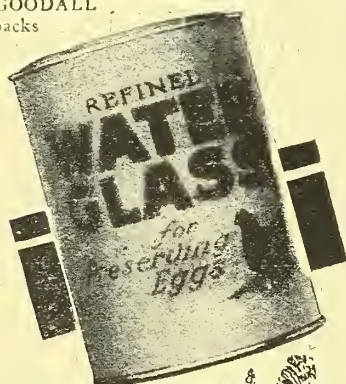
Waterglass

GOODALL'S is the pack that sells

OUR packs of Waterglass are specially made for display and quick sale—the tins and contents are *quality itself*, yet cost you no more than the cheap-looking kinds.

ONE of the
GOODALL
packs

Reserved for
Pharmacists

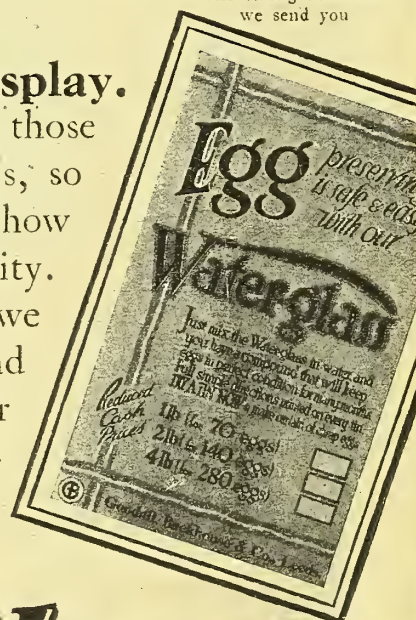


PRICES have been fixed at the lowest level the season is likely to see, so you can place your order or contract now with confidence. Send a card stating your requirements, and the best price possible will be promptly sent you.

Get in an early display.

Much of the trade goes to those who make early displays, so we advise making your show at the earliest opportunity. Use the high-class cards we send with every order, and you will sell out two or three times, making profits you never knew there were in Waterglass.

The strong showcard
we send you



Waterglass

let GOODALL'S quote.

GOODALL, BACKHOUSE & CO. : LEEDS.

'GRIPS'

FIRST AID
PASTILLES

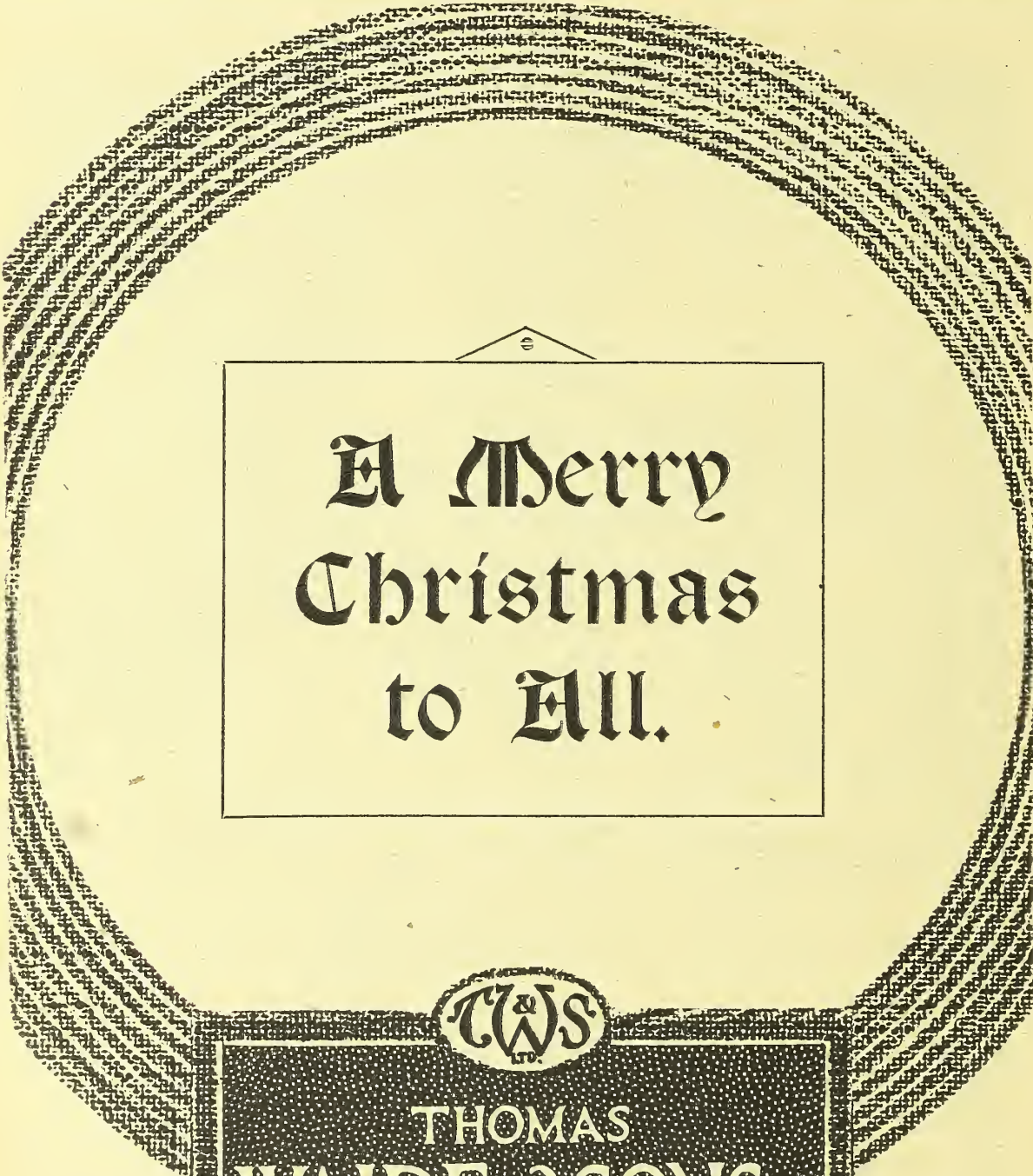
HEALTH
and
WARMTH
in
every tin

Dr. Grip^{Regd}



Wm. W. Phelps

CAS



A Merry
Christmas
to All.



THOMAS
WAIDE & SONS^{LD}
THE CHEMISTS PRINTERS
LEEDS

INDEX TO ADVERTISERS

Addis, R., & Son (Toothbrushes)	22	Cellophane Co. (Wrapping Material) 41	Gardiner & Co. (The Scotch House),	
Allen & Hanburys, Ld. (Greetings, &c.)	Cover-xvii	Chris. Antoine, Ld. (Essential Oils) 12	Ld. (Overalls)	41
Anglo American Oil Co., Ld.		Christy, T., & Co. (Grips Pastilles,	George, Ernest J. (Valuer, &c.) Col. Supp.	
(Toilet Preparations)	19	Py-shan Points Tea, Page Barker	Goodall, Backhouse & Co. (Water-	
Anglo-American Pharmaceutical Co.,		Lotion, &c.)	glass, &c.)	2
Ld. (Menthol and Wintergreen		Clark, Cicero S. (Cachets)	Gordon, H. (London), Ld.	
Cream)	22	Clayton Aniline Co., Ld. (Pharm.	("Gordonia" Feeder, &c.)	31
Associated Clinical & Analytical		Specialities)	Gower, J. (Books)	Col. Supp.
Laboratories, Ld.	xiv	Connell, A., & Co. (Essences, &c.) ..	Grout & Co., Ld. (Crêpe Bandages,	
Association of Manfg. Chemists, Ld.		Cooper, Son & Co., Ld. (Cachets)	&c.)	29
Col. Supp.		Corry & Co., Ld. (Tobacco Powder) 38	Guest, T., & Co., Ld. (Throat	
Ayrton-Graham, Ld. (Shopfittings) .	40	Cowles, E. (Coll. Tube Machinery) ..	Tablets, &c.)	43
Ayrton, Saunders & Co., Ld. (Whole-		Crookes Laboratories (Collosol		
sale Druggists)	15	Zinc Cream)		14
Baker Metal Stopper Co., Ld.		Daisy, Ld. (Headache Cure)		x
(Powder Bellows, &c.)	40	Danto Rogeat & Cie (Enam. Iron-		
Barradell, J. T. (Chamois, Sponges,		ware)		32
&c.)	42	Davenport, J. T., Ld. (Chlorodyne) xii-xvi		
Bath and West of England College		De, S. N. (Drugs)		iv
Battin, H., & Co., Ld. (Areca Nuts)	vii	Dearborn (1925), Ld. (Toilet Special-		
Bayer Products, Ld.	48	ities)		18
Beardmore Motors, Ld. (Box Vans,		Debacq & Harrop (Toilet Preps.) ..		25
&c.)	40	Denver Chemical Manfg. Co. (Anti-		xiv
Beatson, Clark & Co., Ld. (Bottles)	37	phlogistine)		
Beecham, T. (Pills, &c.)	xvi	Deshell Laboratories, Ld. (Petro-		44
Benger's Food, Ld. (Foods)	48	lagar)		22
Bennett, Sons & Shears, Ld.		Dorin, Ld. (Beauty Preps.)		22
(Machinery)	32	Dubarry et Cie (Toilet Luxuries) ..		Cover
Berdoe & Fish (Valuers, &c.)—Col. Supp.		Dndley & Co. (Cash Tills)		39
Berk, F. W., & Co., Ld. (Hyperol) ..	iii	Edwards' Harlene, Ld. (Hair Preps.,		21
Betts & Co., Ld. (Collapsible Tubes)	41	&c.)		xii
Bidwells, Ld. (Tooth Brushes, &c.) ..	24	Endocrines, Ld. ("Harrower" Preps.)		xii
Birmingham Envelope Co., Ld.		Eno, J. C., Ld. (Greetings)		i
(Envelopes)	38	Eucryl, Ld. (Denture Powder)		20
Blythe, W., & Co., Ld. (Chemicals) ..	v	Evan-Williams Co., Ld. (Henna		42
Blyton, Astley & Co. (Menthells, &c.)	46	Shampoos)		906
Bourjois, A., et Cie, Ld. (Greetings)	13	Fairchild Bros. & Foster (Pano-		42
Bow's Liniment, Dr., Ld.	xiv	pepton)		xiv
Boxfoldia, Ld. (Cartons, &c.)	42	Farmer, F., & Co. (Rat Poison)		v
Brierley, J.	Col. Supp.	Ferris & Co., Ld. (Nepenthe)		42
Brown & Son (Stills)	53	Field, C. W., Ld. (Saponine Powder,		
Burgoyne, Burbidges & Co., Ld.		&c.)		42
(Cooper's Colloids)	xi	Pink, F., & Co. (Gums)		42
Burrough, J., Ld. (Wines)	906	Franks, A., & Co. (Gillette Blades,		28
Burroughs Wellcome & Co.		&c.)		
("Hazeline Snow")	47			

Ld. (Overalls)	41
George, Ernest J. (Valuer, &c.) Col. Supp.	
Goodall, Backhouse & Co. (Water-	2
glass, &c.)	
Gordon, H. (London), Ld.	
("Gordonia" Feeder, &c.)	31
Gower, J. (Books)	Col. Supp.
Grout & Co., Ld. (Crêpe Bandages,	
&c.)	29
Guest, T., & Co., Ld. (Throat	
Tablets, &c.)	43
Hall, Forster & Co., Ld. (Vaponrisers)	42
Haller Laboratories, Ld. (Danysz	
Virus)	38
Harker, C. R., Stagg & Morgan, Ld.	
(Peldo)	26
Harley, T. (Rat Poison)	38
Harris, J., & Co. (Advertising	
Balloons)	30
Harvey & Co. (Dublin), Ld. (Veteri-	
nary)	xviii
Henry, A. C. (Chemicals)	ix
Heymans, Rene, Ld. (Enemas, &c.)	25
Himrod Manfg. Co. (Asthma Cure)	xii
Hind & Lund, Ld. (Machinery)	33
Hoffmann-La Roche Chemical Works,	
Ld. ("Sedobrol" Tablets, &c.)	vii
Honeywill Bros., Ld. (Alcohol)	36
Horlick's Malted Milk Co.	35
Johnson & Sons Mfg. Chts., Ld.	
(Chemicals)	iv
Johnston & Adams (Slipperine)	39
Joseph, Bertram E. (Isopropyl	
Alcohol)	iv
Josephs, Philip, & Sons, Ld.	
43-Col. Supp.	
Kent, G. B., & Sons, Ld. (Brushes)	28
Kerfoot, T., & Co., Ld. (Greetings)	17
King, J. C., Ld. (Duplicate Books,	
&c.)	28
Lancaster, J., & Son, Ld. (Cameras)	42
Langley-Smith & Co. (Colza Oil)	36

[Continued overleaf.]

Are You stocking—**VULPRO**?

The New British Rubber?

Can be obtained from

ALLEN & HANBURY, Ltd.
DOWN BROS., Limited
JOHN BELL & CROYDEN, Ltd.
EVANS SONS LESCHER &
WEBB, Ltd.
MAYER & PHELPS

SOUTHALL BROS. &
BARCLAY, Ltd.
THE SURGICAL MFNG. CO., Ltd.
THE MEDICAL SUPPLY
ASSOCIATION, Ltd.
Etc., Etc.

Descriptive Catalogue
sent on receipt of a
postcard to:

VULTEX PRODUCTS LIMITED

General Buildings, Aldwych, London, W.C.2

INDEX—cont.

Lauder, T. (Machinery)	33	Patent Phosphates and Merchandise, Ld. (Olive Oil)	v	Standard Glass & Hardware Co., Ld. (Glass Bottles, &c.)	36
Land & Nation League	43	Pears, A. & P., Ld. (Shaving Stick)	23	Stedman's, Dr. (Teething Powders)	xiv
Leath & Ross (Homœopathic Medicines)	xvii	Pierson, Morrell & Co., Ld. (Greeting)	16	Steel, W. Harvey, & Co. (Caramcl)	34
Leigh, R. & H., & Sons, Ld. (Carboy Stand)	33	Piver, L. T. (Greeting)	16	Stern, H. C. Toilet Paper)	31
Lever Bros., Ld. (Glycerine)	vii	Potter & Clarke, Ld. (Asthma Cure)	45	Sterns, Ld. (Oils, Petroleum, &c.) ..	37
Levermore, A., & Co., Ld. (Precipitated Chalk)	42	Prescriber, The	42	Stubbs, W. B., & Son (Delivery Trucks)	32
Licenses and General Insurance Co., Ld.	36	Prichard & Constance (Wholy), Ld. (Amami Shampoos)	18	Surgical Hosiery Co., Ld.	30
Liverpool School of Pharmacy	39	Prout and Harsant (Blair's Gout Pills, &c.)	xviii	Tatcho-Tone Co.	42
London College of Pharmacy	39	Quelch & Gambles, Ld. (Toilet Preps.)	24	Taylor, Ernest, Ld. (Boxes)	32
Lorenz, Hugo, Ld. (Lecithin, &c.) ..	ix	Reeve, Angel H., & Co., Ld. (Filter Papers)	34	Thornton & Ross, Ld. (Ammonia) ..	vi
Lorimer-Marshall, Ld. (Pot Pourri Jars, &c.)	25	Richards, G. H., Ld. (XL ALL Specialities)	906	Tipper, B. C., & Son (Veterinary) ..	40
Macandrews & Forbes, Ld. (Apollo Liqueur)	viii	Roberts & Co. (Tonic)	xv	Tomlinson, T., & Son (Valuers, &c.) ..	Col. Supp.
MacLellan, G., & Co., Ld. (Surgical Rubber Goods)	30	Roberts & Newton (Printers)	38	Tucker, A. Q., & Co. (Asthma Remedy)	31
Madden, J. (Varicosau Bandage) ..	29	Roberts & Sheppy (Melrose Tablet) ..	xiv	United Alkali Co., Ld. (Chemicals) ..	vi
Manchester School of Pharmacy	42	Robinson & Sons, Ld. (Boxes)	906	United Chemists' Association, Ld. (Greeting)	10
Matthews, D., & Son	Col. Supp.	Rose, J. L., Ld. (Pyrogallie Acid) ..	iv	Veno Drug Co. (1925), Ld. (Lightning Cough Cure)	xiii
Maw, S., Son & Sons, Ld. (Greetings) ..	11	Rowland, A., & Sons, Ld. (Macassar Oil)	22	Vanore, Ld. (Greeting)	42
Mawson, John W., & Co., Ld. (Capsules)	vi	Rudduck & Co. (Shopfittings) ..Col. Supp.	6	Viscose Development Co., Ld. (Bottle Cappings)	37
May, Roberts & Co., Ld. (Sundries) ..	xx	Saltrates, Ld. (Reudel Bath Saltrates) ..	27	Vulxex Products, Ld. ("Vulpro" Goods)	5
Millar, A., & Co., Ld. (Orange Wine) ..	34	Schering, Ld. (Pharm. Specialities) ..	906	Wagner, R. V. (Bottle Caps)	37
Mills, A. J., & Co., Ld. (Honey) ..	34	Scholl Manfg. Co., Ld.	30	Waide, Thos., & Sons, Ld. (Greeting) ..	4
Montgomery & Co., Ld. ("Berina" Malted Milk)	7	Scott, A., Ld. (Toilet Sets)	26	Warne, W., & Co., Ld. (Surgical Goods)	30
Morny Freres, Ld. (Toilet Preps.) Cover		Scruton, Oscar, & Co. (Nurse Harvey's Mixture)	34	Watney, J., & Co., Ld. (Grain Spirit) ..	36
Munro, M'Laren & Sutherland (Brushes)	28	Scurr, C. A. (Optical Tuition)	39	Westminster College of Pharmacy ..	39
National Cash Register Co., Ld.	28	Shadclne Co. (Hair Dyes)	42	Wheeler & Huisking, Ld. (American Drugs, &c.)	ix
Newball & Mason (Wine Essences) ..	34	Shawyer & Co. (Developing, &c.) ..	39	Whelpton, G., & Son (Whelpton's Pills, &c.)	xvi
Newbery, F., & Sons, Ld. (Greeting, &c.)	16-xix	Sherley, A. F., & Co., Ld. (Dog Medicines)	38	Whiffen & Sons, Ld. (Fine Chemicals, &c.)	ii
Oppenheimer, Son & Co., Ld. (Robo-leine)	9	Slack, A. Bernard	Col. Supp.	White, A., & Sons, Ld. (Chemicals) ..	iv
Orridge & Co. (Valuers, &c.) .. Col. Supp.		Smith & Co. (Flycatchers)	42	Wigglesworth, Ld. (Greeting)	1
Owbridge, W. T., Ld. (Greeting) ..	10 & xviii	Smith, J. M., & Co. (Greetings) ..	xv	Wilkinson, S. W., & Co. (Rotary Tablet Machines)	33
Page, Chas., & Co., Ld. (Chemicals) ..	viii	Smith, T. & H., Ld. (Chemicals) ..	vii	Wright, Layman & Umney, Ld. (Household Embrocation)	Cover
Parke, Davis & Co. (Bronchial Lozenges)	8	Solazzi (Liquorice)	vi	Zeal, G. H., Ld. (Clinical Thermometers)	29
		Solport Bros., Ld. (Hot Water Bottles)	30		
		Spatula Publishing Co. (Books) ..	34		
		Speer, W. R., & Son (Toothbrushes) ..	28		
		Spencer, Isaac, & Co. (Aberdeen), Ld.	906		
		Sparway et Cie, Ld. (Bulk Perfumes) ..	124		
		Squire & Co., Birmingham, Ld. (Lobelline)	xv		

CHEMISTS' DISPLAY COUNTER

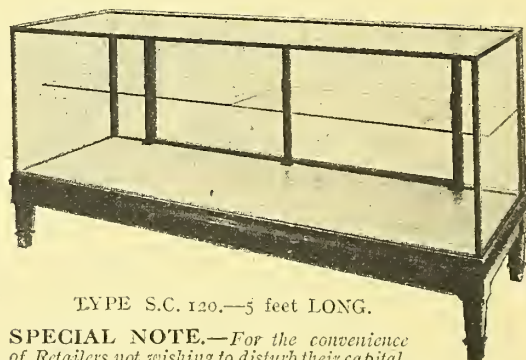
OF

EXCEPTIONAL VALUE.

SAGE PRODUCTIONS are noted for the Excellent Appearance, Fine Workmanship, and Sturdy Construction.

The illustration shows a standard 5 ft. Counter of our best Crystal Plate Glass, framed in either Mahogany or Oak, fitted with one row of removable and adjustable plate glass shelves, and having a handsome parquet bottom. This counter is 2 ft. 11 in. high by 2 ft. wide by 5 ft. long. These counters are also made 6 ft. 7 in. and 8 ft. long.

If you have not yet received our Catalogue we will gladly send you a copy Free.



TYPE S.C. 120.—5 feet LONG.

SPECIAL NOTE.—For the convenience of Retailers not wishing to disturb their capital, we are prepared to offer our Counter Equipment on the instalment plan, of which full particulars will be gladly forwarded on request. Enquiries are treated as strictly confidential.

FREDK. **SAGE** & CO., Ltd.
58-62 GRAY'S INN RD., LONDON, W.C.1

.....
The Nearest Food to Human Milk Yet Produced.



The Baby Food You CAN Sell.

The mother who knows "Berina" invariably expresses her satisfaction in it to other mothers; when her baby is admired, "Berina" is praised. Nurses testify to this wonderful food and doctors prescribe it. Each of these three instances represents a self-contained advertising campaign of most potent sales-promoting effect.

"Berina" is the best selling line that any progressive chemist can stock. The momentum of mother tribute and professional approval assures a rapidly growing demand.

The Advantages of "Berina"

"Berina" is an entirely new baby food, the latest outcome of research and the nearest food to human milk yet produced. The results obtained with "Berina" are incomparably good, this fact being testified to by eminent medical men.

It comprises all the natural essentials requisite and necessary to scientifically proportioned & accurately balanced baby food in the parts of Full Cream Milk, Cream of Wheat and Sugar of Milk.

Infants fed on "Berina" from birth are quite free from digestive troubles.



The Proprietors will be pleased to send free sample of "Berina" food to Chemists on receipt of postcard.

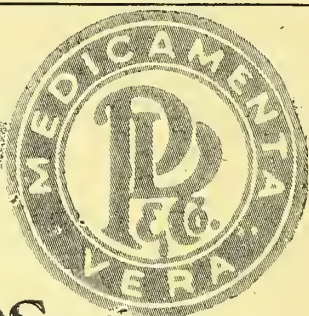
MONTGOMERIE & CO., LTD.,

IBROX, GLASGOW

(Proprietors of "Bermaline" Bread).

Mentholated Bronchial Lozenges

(P.D. & Co.)



MENTHOLATED Bronchial Lozenges, P., D. & Co., bear the stamp of P., D. & Co. quality. They were originally introduced by us. Evidence of their excellence is indicated by the number of imitations that have since appeared. Notwithstanding this, our sales continue to mount—a sure indication that with these lozenges one sale brings many.

**Send
for
Terms**

M.W.P. - 8s. 0d. per doz. net.

M.R.P. - 1s. 0d. per tin.



PARKE, DAVIS & Co.,
50 Beak Street,
LONDON, W.I.



Steady Progress in the Sales of

Roboleine

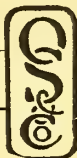
THE FOOD THAT BUILDS THE BODY

WHEN the figures on the sales-chart are progressive from season to season, it is definite proof that the product is all that is claimed for it and that it is being advertised in a convincing manner.

This is true of "Roboleine," and it provides the strongest possible reason why you should interest yourself in its sale. Remember that the ever-growing reputation of "Roboleine" reflects favourably upon those who stock and recommend it.

OPPENHEIMER, SON & COMPANY LTD.
179 Queen Victoria Street, London E.C. 4

O & S

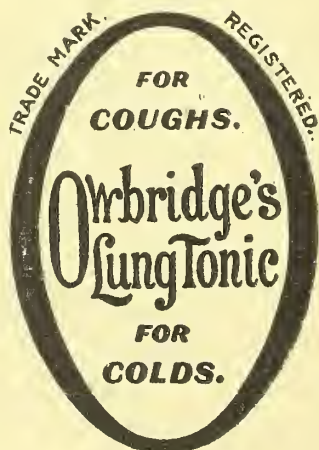


**A Happy Christmas
and a Prosperous New Year
to all our Friends.**



**The United Chemists
Association Limited.**

PRIORY COURT WORKS,
CHELTENHAM.



Christmas Greetings

and

Good Wishes

for the New Year.

W. T. OWBRIDGE, LTD., The Laboratory, HULL

Maw's



Page

Greetings

The House of Maw extends to all pharmacists and their families, at home and overseas, the heartiest of Yuletide greetings and good wishes for prosperity in the New Year. ✂ May 1926 prove more fruitful than the most successful of past years and be the means of furthering the time-honoured traditions of pharmacy.

S. Maw, Son & Sons, Ltd.,
Aldergate St., London,
and Barrow.

TRADE MARK



1825

To our customers in all
parts of the world we send
our very Best Wishes for a

**Happy and
Prosperous
New Year**

We also take the opportunity of again thanking them for their loyal and generous support during a year that has been memorable to us in that we have reached our first centenary.

1925

SPURWAY ET CIE, LTD.

89 Great Eastern Street,
LONDON :: :: E.C.2.
CANNES-GRASSE, RIVIERA,
PARIS.

LEIPSIC NEW YORK
KINGSTON (ONTARIO)

Telegrams - "NEROLI, LONDON."
Telephone - BISHOPSGATE 1372.

ESSENCES**HIGHEST CONCENTRATION.***Sole Agents for Gt. Britain and Colonies*

FOR

FRIES & BRO. NEW YORK

The World-Renowned Makers of
FIRST QUALITY ESSENCES.

PEACH
Stocks **APRICOT** *Ask for*
in **HONEY** *Quotations*
London. **MAPLE** *& Samples.*
&c.

A. CONNELL & CO., Melba House,
WENLOCK ROAD, CITY ROAD, LONDON, N.1
Phone: Clerkenwell 7266. Tele.: "Nitrozone, Ald. London."

ESTABLISHED 1768.

ANTOINE CHIRIS
GRASSE

ESSENTIAL OILS
FLORAL WATERS
GUM BENZOIN
OLIVE OIL

ANTOINE CHIRIS LTD.

3 DRAPERS GARDENS,

THROGMORTON AVENUE, E.C.2.

Telephone - - - - Bank 5021



Ashes of Roses

(BOURJOIS - PARIS)

Christmas & Goodwill

CHRISTMAS comes again! We offer our many friends of the trade our Best Wishes for Christmas 1925 and trust they will enjoy a full measure of Prosperity in the New Year.

The word "Goodwill" takes especial significance where *Ashes of Roses* and *Ashes of Violets* Perfumes and all the Bourjois preparations are concerned. The happy bond of goodwill which exists in our case between manufacturer and every branch of distribution is a handsome tribute to the popularity of our marketing policy and the public's appreciation of our goods.

With the active co-operation of our good friends, both Retail and Wholesale, and the mighty stimulus of constant national advertising working for our mutual benefit, we feel unusually confident that the next twelve months will yield even greater sales figures, to top those which hitherto have been a source of great satisfaction to all.

A. BOURJOIS ET CIE., LTD

LONDON, 4 WATER LANE E.C.4.

PARIS

SYDNEY

WELLINGTON

NEW YORK



TO PHARMACISTS AND ALL IN THE
DRUG TRADE AT HOME AND OVERSEAS

Greetings & Good Wishes

for Increased Prosperity in

THE NEW YEAR

Xmas
1925.

THE CHEMIST AND DRUGGIST
42 Cannon Street - LONDON, E.C.

The most successful iron
tonic on the market.



Telegrams :
"COLOSSALLY,
WESTCENT, LONDON."
Telephones (3 lines)
MUSEUM 3663, 3697, 5757.

COLLOSOLO FERROMALT

(CROOKES)

Daily increasing in popularity among both the
medical profession and the public.

Collosol Ferromalt is now supplied in an
attractive packing, admirably adapted for counter
display.

Collosol Ferromalt gives a satisfactory margin,
and the assurance of complete satisfaction to
your clients.

Terms and Particulars from :

THE CROOKES LABORATORIES
(BRITISH COLLOIDS LIMITED)

22 Chenies St., Tottenham Court Rd., W.C.1

A "Reason Why" Advertisement

Written by our Customers

MANCHESTER Dec. 11th, 1925.

"I should like to place on record my satisfaction with the way you have dealt with my opening order of some 900 separate items, all of which you delivered to me within seven days of your receiving first few order sheets, and without a single breakage, a single error in the invoices, and not more than three 'to follow' items. In all my thirty-seven years in Pharmacy (this, by the way, is my eighth shop), to be able to open a Pharmacy complete within ten days of paying my deposit on the building, appears to me a record. With the exception of one line for which I had previously made the winter's contract, every item in the Pharmacy on my opening day was supplied by you, justifying your boast that you supply everything that a Pharmacy sells."—S.P.L.

SCOTLAND Dec. 15th, 1925.

"I am impressed with the careful and energetic character of your firm, and your prompt action in answering all calls is bound to be highly appreciated. I shall make an effort to show my appreciation through support given to your representative."

"AYRTON'S PROGRESS"

is a topic in Pharmaceutical circles.

AYRTON, SAUNDERS & CO. LTD.

34 Hanover Street - - - LIVERPOOL

Goodwill to All!

IN once again wishing the Trade the Compliments of the Season, we would remind our friends that **commercial** Goodwill is theirs throughout the twelve months of the year.

The never-varying superb quality of Piver Perfumes and Complexion Powders is distinctly beneficial to the highest reputation.

*All Piver Lines carry liberal profits, and are distinctly packed to promote easy selling.
Write for full trade terms, etc.*

L. T. Piver Paris

LONDON DEPOT :
102 DEAN STREET, OXFORD STREET, W.1
Telephone : Regent 5260.

DEPOT FOR IRISH FREE STATE :
G. J. DAVIES, 12 HARBUR ST., EDEN
QUAY, DUBLIN.

TO ALL OUR FRIENDS AT HOME
AND ABROAD

GREETINGS
AND GOOD WISHES

for a

HAPPY XMAS

and a

Bright and Prosperous
NEW YEAR

From

FRANCIS NEWBERY & SONS, Ltd.

27/8 Charterhouse Square, LONDON, E.C.

Also at **CARDIFF** and **LIVERPOOL**.

Seasonable Greetings

*May your Xmas and
New Year be as good
as the Quality of our
Aspirin. You cannot
have better.*

**PIERSON, MORRELL & CO.
LIMITED**

(The Original British Aspirin Makers),
100 QUEEN'S ROAD, BARNET.

Telephone No. :
Barnet 723.

Telegrams and Cables :
"Pierson Morrell, Barnet."



*Thomas
Kerfoot & Co., Ltd.*

*offer to all their customers
and trade friends*

A GREETING FOR
CHRISTMAS AND
THE NEW YEAR

*and wish for them
a prosperous 1926
— especially with*

**"VAPEX," "KEROCAIN"
"CASTOLS," "DISTOL"
"OTTOS," "MINERAL
SPRING" HEALTH
GRANULES, EMUL
SION PASTILLES,
and other products
of the Garden
Laboratories
at Bardsley
Vale**

**THOMAS KERFOOT & CO. LTD.
BARDSLEY VALE, LANCASHIRE,
& Bardsley House, London, N.1
ESTABLISHED 1797.**

B.161

COPYRIGHT

DEARBORN (1923) LTD.

37 Gray's Inn Road, London, W.C.1

Toilet Specialties.

	Price per doz. to Retailer	Selling Price P.A.T.A.
PILENTA SOAP ..	10/-	1/-
A complexion soap.		
PROLACTUM ..	10/-	1/-
For the lips.		
PARSIDUM JELLY ..	10/-	1/-
For wrinkles.		
ALLACITE OF ORANGE BLOSSOM ..	22/6	2/6
A dressing cream.		
BORANIUM ..	22/6	2/6
A hair tonic.		
CLEMINITE ..	22/6	2/6
For a face lotion.		
COLLIANDUM ..	22/6	2/6
For a face tint.		
PERGOL ..	22/6	2/6
A deodorant.		
TEKKO PASTE ..	22/6	2/6
Camphor cream.		
STALLAX ..	13/6	1/6
For a shampoo.		
JETTALINE ..	22/6	2/6
For clearing the skin.		
PHEMINOL ..	31/6	3/6
A depilatory.		
MENNALINE ..	36/-	4/-
For the eyelashes.		
MERCOLIZED WAX ..	18/-	2/-
A face cream.		
STYMOL ..	31/6	3/6
For oily complexions and blackheads.		
SILMERINE ..	36/-	4/-
Hair-curling fluid.		
BARSYDE ..	22/6	2/6
Dandruff eradicator.		
TAMMALITE ..	22/6	2/6
For grey and faded hair.		
LIQUID PERGOL ..	31/6	3/6
To check excessive perspiration locally.		
BICROLIUM ..	22/6	2/6
For whitening the hands.		
COCONOIDS ..	31/6	3/6
For figure development.		

The Products of

Messrs. PARKER, BELMONT & CO.

CLYNOL BERRIES ..	36/-	4/-
For obesity.		
SOFT PALERIUM ..	58/6	6/6
For wrinkles.		
LIQUID NAIL POLISH ..	45/-	5/-
Brilliant and lasting.		
LIQUID NAIL POLISH ..	10/-	1/-

Stocked by ALL Wholesale Houses.

COLONIAL DEPÔTS AND AGENCIES.

Australia: ALL WHOLESALERS, & DEARBORN (Australia), Ltd., Grace House, Clarence Street, Sydney.
South Africa: LENNON, Ltd., Cape Town, etc.
 SIVE BROS. & KARNOVSKY, Johannesburg.
India: FRAMJEE & SON, Bombay.
 A. L. CHOUDRY, Calcutta.
New Zealand: SHARLAND & CO., Auckland and Wellington.
South America: DEARBORN (South America) Ltd., Calle Pavon 2100, Buenos Aires.
Straits Settlements & Federated Malay States: MEDICAL HALL, Ltd., Singapore.

£10
 to the
 winner's
 supplier
 in the
AMAMI
£525
 POPULARITY
 COMPETITION

You buy Amami 6d. Shampoos at 4/6 per doz. Please order your supplies through P.A.T.A. Wholesalers. They allow the same bonus—10%.

Energetic advertising keeps Amami continually before your customers. Consistent quality in the shampoo makes them regular users.

AMAMI, 4/10 CHENIES ST., LONDON, W.C.1

Regent frères

TOILET PREPARATIONS

A "Specialty" Line of Distinction



THE charmingly distinctive bottles and labels of the new Regent frères "Specialty" Toilet Preparations are bound to attract your customers, making sales easy. The unrivalled quality and purity of their contents will satisfy the most critical and ensure repeat sales.

Our large production methods have kept the price exceptionally low, enabling you to retail at a figure well within the reach of all your customers.

Full particulars of this new and profitable line sent on request.

Attractive showcards and counter stands supplied.

Regent frères series include :

MILK OF ROSES (for the skin and complexion), BAY RHUM, CREME SPECIALE (a greasy or non-greasy fixative), PARAFFINE DE TOILETTE, EAU DE VIOLETTE and EAU DE QUININE.

**"SPECIALTY" DEPT.,
ANGLO-AMERICAN OIL CO., LTD.**
Albert Street, Camden Town, London, N.W.1.

Telephones : Hampstead 4046 and 4047.

Telegrams : "Nufinjol, Norwest, London."

D.A.

SPECIAL ANNOUNCEMENT

Messrs. EUCRYL LIMITED beg to announce that in response to the very numerous requests which have been received from their good friends in the Wholesale and Retail Chemists' Trade, they have now introduced a large size in their already popular selling line

EUCRYL DENTURE POWDER

It has been found impossible to make use of a Sprinkler Tin without altering and decreasing the efficiency of the Powder. Consequently, this new size is a large flat tin listed at 8/- a dozen, retailing at 1/- each, on usual full bonus terms

Further, as a special introductory offer Messrs. EUCRYL LIMITED are prepared to supply on all first orders, 1 dozen only, carriage paid, on full bonus terms.

Eucryl Ltd. - Shirley - Southampton

A Name that Merit has made Famous

"HARLENE- HAIR-DRILL"

THE extensive and intensive advertising campaign constantly running in connection with "Harlene" still continues and will still continue to draw immense response from all over the country. Thousands of Free Trial Gift Parcels are dispatched to new applicants every day, thus increasing the already colossal retail business.

Do you stock the following "Quick Sellers"?

"Harlene" for the Hair
"Uzon" Brilliantine
"Cremex" Shampoo Powders
"Astol" for Grey Hair

"Astine" Vanishing Cream
"Astine" Tooth Cream
"Astine" Shaving Stick
"Astine" Nail Cream

AN ENTIRELY NEW LINE!

"JUNOFLORIS" Spring Breath.

A Breath Purifier and Antiseptic Mouth and Stomach Deodorant in Tablet Form—NOT a Cachou. As "Junofloris" is an entirely New and Original line which does not compete with anything in existence, it will therefore add EXTRA PROFIT to your Business.

Prices: { Advertiser (minimum Retail) 7½d. & 1 1½ per box
Makers' 6 8 & 12 - ,, doz.

Less 20 % Discount.

Packed in Neat Counter Display Cartons of
1 doz. Boxes which Sell "Junofloris" at sight.

*No Chemist or Store can afford to be without
this Unique Line of Toilet Preparations.*

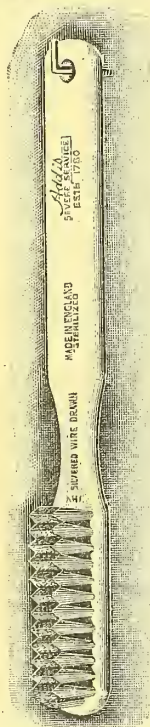
**PLACE YOUR
ORDER TO-DAY.**

For Full Particulars, Terms, etc., write to:—

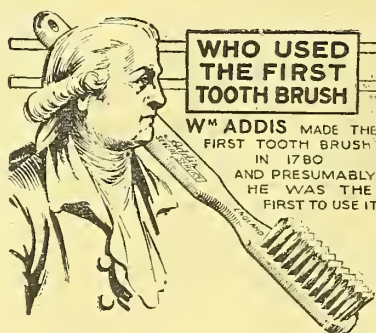
EDWARDS' HARLENE LTD.

20, 22, 24, 26 LAMB'S CONDUIT
STREET - LONDON, W.C.1.





Made in Very Hard
Unbleached Bristle
for "Severe Service"



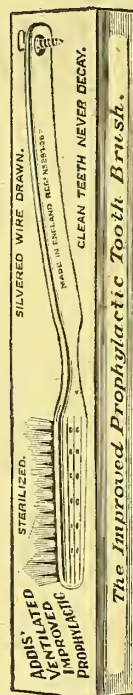
W^m ADDIS MADE THE
FIRST TOOTH BRUSH
IN 1780
AND PRESUMABLY
HE WAS THE
FIRST TO USE IT.

Every *Addis Prophylactic* and "SEVERE SERVICE"
tooth brush box bears the following copyright wording:

*Manufactured in England and guaranteed by the oldest firm
of tooth brush manufacturers in the world.*

When you offer your customer one of these he knows you are
offering the best obtainable, not just selling for profit. At the
same time ADDIS brushes give the regulation profit, a full
guarantee and confidence to the customer to purchase other
goods from you.

ADDIS BRUSH WORKS
HERTFORD, ENGLAND.



Made in
Very Hard ... Bristles
Hard ...
Medium ...
or Soft if required.

"TUBELETTE"
MENTHOL & WINTERGREEN CREAM

ANGLO-AMERICAN PHARMACEUTICAL CO. LTD.
112 GUILDFORD STREET, LONDON, W.C.1

ON P.A.T.A. with good profits.

THE ORIGINAL BEST KNOWN & LARGEST SELLING IN ENGLAND, SCOTLAND & WALES.

Stocked by all sundry houses.

Anglo-American Pharmaceutical Co. Ltd.
EAST CROYDON.

NOTE.—"Tubelette" Menthol Wintergreen Cream should not be
confused with HUXLEY'S "WINTOGENO" (Menthol, Wintergreen and Eucalyptol) which is a distinct brand and package.

Down L 41 Charterhouse Sq., E.C.1

are advertising to the Public

"ROUGE BRUNETTE"
(P.A.T.A.)

"UN AIR DE PARIS"
"CREME ECLALYS"

(Offering Free Samples).

Our discounts leave you a liberal profit.
Prepare your stock to answer the demand.

Delivery from Stock.

Telephone : Central 1954

ROWLAND'S MACASSAR OIL

A line it pays to stock.

P.A.T.A. 3/6, 7/-, 10/6.

THROUGH ALL WHOLESALERS.

A. Rowland & Sons, Ltd.
112 GUILDFORD STREET, LONDON, W.C.1.

This is how

Novel and practical too

NOVEL shaving stick today is also practical. It's a Pears' achievement and the result of years of careful experiment. Pears' Shaving Stick is a little thicker, a little shorter than usual to give a larger surface in use and better balance. It is mounted on a patent Ivostrip which protects the razors from damage, which protects the razors from damage. These razors are required to be removed after required use. These razors are required to be removed after required use. These razors are required to be removed after required use.

Price 1/3d

Pears' IVOSTRIP SHAVING STICK

Something new & good

Pears' IVOSTRIP SHAVING STICK

Ivostrip is as good as it is new. For use a Pears' Ivostrip is a great improvement on old-fashioned holder-for-shaving sticks. Ivostrip is the only shaving stick in the world which is mounted on a non-metallic, shock-proof and easy to use. The Ivostrip is a great improvement on old-fashioned holder-for-shaving sticks. Ivostrip is the only shaving stick in the world which is mounted on a non-metallic, shock-proof and easy to use. The Ivostrip is a great improvement on old-fashioned holder-for-shaving sticks. Ivostrip is the only shaving stick in the world which is mounted on a non-metallic, shock-proof and easy to use.

Pears' IVOSTRIP SHAVING STICK

ARE ADVERTISING THEIR NEW IVOSTRIP SHAVING STICK

It's a goer!

Write for trade terms to - Sales Manager, 71-75 New Oxford Street W.C.1
6414-29.



Use this New Showstand

It has already proved itself a good salesman of NUCTONE in many parts of the country. From a decorative point of view it would be hard to beat, and it forms a splendid link between our advertising and your cash-till. Ask for it when you next order NUCTONE.

You sell NUCTONE under a definite guarantee of safety backed by the manufacturers. When asked for a colour restorative for Grey Hair you can recommend it with confidence every time.

Nuctone

for GREY HAIR

In
Four
Grades

NUCTONE for dark and medium hair.
3/9 size 32/- doz., 6/6 size 52/- doz.
NUCTONE ECLAIRE for fair & auburn hair.
3/9 size 32/- doz., 6/6 size 52/- doz.
NUCTONE CONCENTRE for Gentlemen's hair,
6/6 size 52/- doz., 12/6 size 84/- doz.
NUCTONE ECLAIRE CONCENTRE for Ladies and Gentlemen with fair hair who want a quicker result.
6/6 size 52/- doz., 12/6 size 84/- per doz.

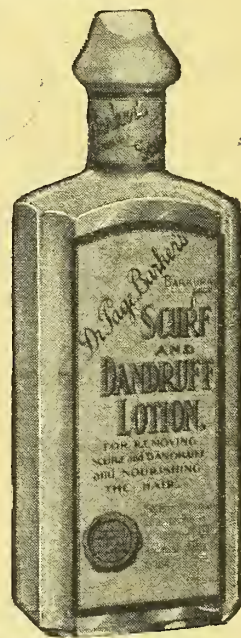
Obtainable from your usual wholesalers or direct from—

QUELCH & GAMBLE, Ltd.
211/215 Blackfriars Road, London, S.E.1

Manufactured by
STEWART, GOODALL & DUNLOP, LTD., 4 Dering St., London, W.1

Dr. Page-Barker's Scurf Lotion

THE specific recognised throughout the Trade as the one genuine and reliable remover of Scurf and Dandruff. Every bottle carries a guarantee. 18/- per dozen, retail at 2/6. With an order of three dozen you get a free bonus of three 2/6 bottles, also an attractive showstand. Smart show matter. Leaflets with your own name.



THOS. CHRISTY
& CO.

4, Old Swan Lane,
Upper Thames St.,
E.C.4.



BIDWELL BIDWELL & CO. LIMITED.

BIDWELL'S
"GLORIA" and
"PROPHYLACTIC"
TOOTH BRUSHES.

Also Pure Bristle

HAIR, NAIL and SHAVING BRUSHES.

Highest Class—Gold Medal—Established 1839

**GOODS MOST SUITABLE FOR
CHRISTMAS PRESENTS:**

"COMPAGENIC" CASE. Two Hair Brushes fitting into one another, with Comb.

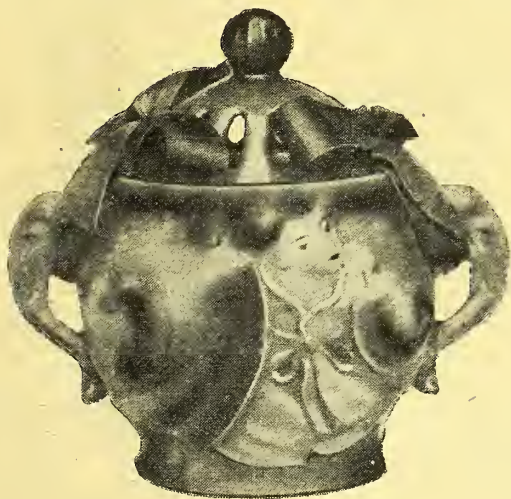
"SHINGLETT" HAIR BRUSHES in Satinwood or Ebony.

SMALL ERINOID BRUSH & COMB in leather case for Hand Bags.

BADGER HAIR SHAVING BRUSHES in Transparent Tubes.

Factories: AXMINSTER, ENGLAND.

POT POURRI JARS



Filled with delicious
POT POURRI
blended to last for years.

Height of Jar, 4 inches.

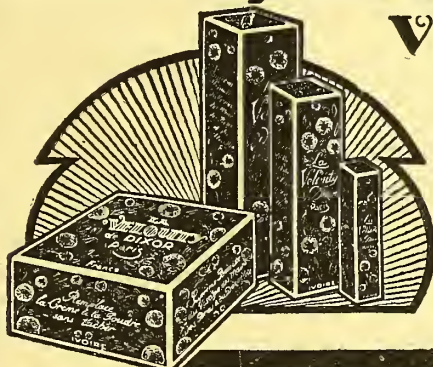
Width - - 4½ inches.

ASSORTED COLOURS.

Price 24/- per doz.

Ready for despatch from stock.

LORIMER-MARSHALL, Ltd., 12 Tower Hill, LONDON, E.C.3



VELOURY de DIXOR PARIS .. COMBINED CREAM AND POWDER

The advertised line that you are asked for

DAINTY PRESENTATION

Samples free upon receipt of tradecard or billhead

Prices:—Full size pot	21/- doz.	Retail	2/9
Super Tube	22/- "	"	3/-
Large "	14/- "	"	2/-
Handbag "	3/- "	"	6d.

Made in three shades: WHITE, IVORY and NATURAL

Obtainable from your regular Wholesaler or direct from the Sole British Agents:
DEBACQ & HARROP, 68 Newman Street, Oxford Street, LONDON, W.1

ANYTHING IN THE SUNDRIES LINE RENE HEYMANS LTD.

Including ENEMAS, WHIRLING SPRAYS, SOOTHER FITTINGS, DOUCHE FITTINGS, POWDER and VANITY PUFFS, BRUSHES, COMBS, POWDER PUFF
:: :: :: MANUFACTURING ACCESSORIES, Etc., Etc. :: :: ::

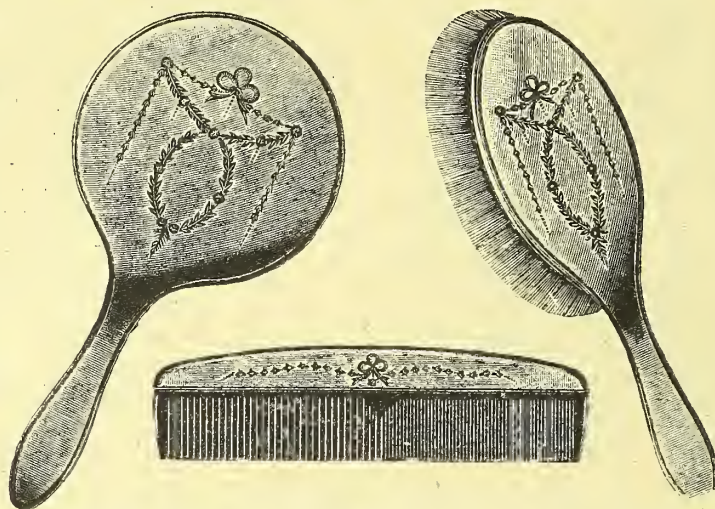
Our Paris House is always on the look-out for Novelties suitable for manufacturing purposes, and we shall be glad to obtain articles for clients.

109, DOMINGO STREET, LONDON, E.C.1

ADOLPH SCOTT LTD.

24, 25, 26 GREAT HAMPTON STREET - - - BIRMINGHAM

LARGE
SELECTION
TOILET SETS,
SCENTS,
SCENT
SPRAYS,
POWDER
BOWLS, ETC.
IN
H.M. SILVER,
E.P.N.S.
TORTOISE-
SHELL



SEND
FOR
LATEST
ILLUSTRATED
CATALOGUE
OF
SILVER,
ELECTRO-
PLATE,
LEATHER
AND
EBONY GOODS

H.M. SILVER TOILET WARE

Peldo
(Patent applied for)

THE
INVISIBLE
GLOVE

IF YOU SHOW 'PELDO' YOU WILL SELL IT!

'PELDO' IS ORIGINAL.

It is not a Substitution for Anything.

Obtainable from all the Patent Houses @ 13/6 per dozen.

WINDOW DISPLAY MATERIAL FREE ON APPLICATION.

SOLE PROPRIETORS AND MANUFACTURERS:

C. R. HARKER, STAGG & MORGAN, LTD.

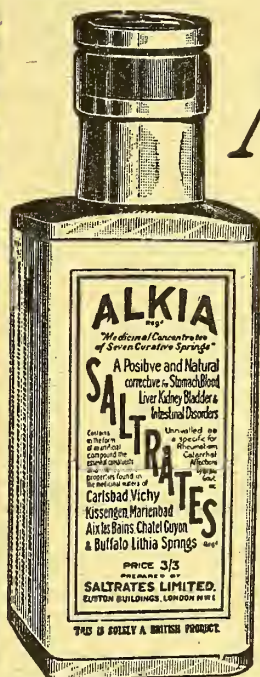
Devon Wharf and Bell Wharf,

EMMOTT STREET, MILE END, LONDON, E.1.

Compounded UP TO A STANDARD

(The Highest Possible)

Never DOWN TO A PRICE



these lines are as near perfection in their respective fields as it is humanly possible to get them, regardless of cost or selling price. Your customer requires no persuasion after he has once given our preparations a trial. He then KNOWS they are just what he wants and is interested in no others. In other words—after you make the first sale these goods go on selling themselves.

Alkia Saltrates

The most efficient Saline on the market and the best value for the money. Pleasant tasting and always satisfies the user. Widely advertised for Rheumatism, Gout, Sciatica, or any Liver, Kidney, Stomach, Intestinal or Blood Disorders, Catarrhal Affections, etc.

Sells at 3/3 (P.A.T.A.).

Reudel Bath Saltrates

The best selling and most fragrant, refreshing, beneficial and all-round satisfactory preparation for the bath—especially recommended for Corns and all Foot Troubles, Rheumatic Pains, etc.

Sells at 2/- and 3/3 (P.A.T.A.).

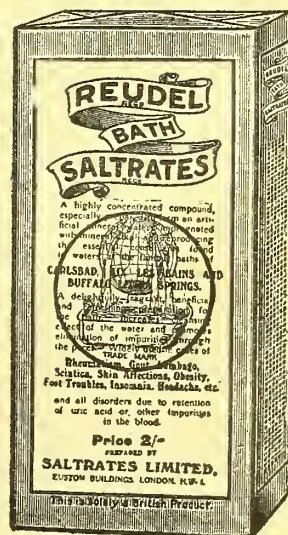
YOU CAN STOCK THESE RAPIDLY MOVING LINES ON GUARANTEED SALE TERMS

Carriage Paid in Free Cases in United Kingdom on orders for three dozen, which may be assorted.

Showcards of strong selling power sent free on request.

Write for our Special Terms for Window Display.

SALTRATES LIMITED, Euston Buildings, London, N.W.1.



Your RECORD and PROTECTION

EVERY LETTER, ORDER, MEMO, INVOICE AND DELIVERY NOTE SHOULD HAVE A DUPLICATE.

PRICES PER BOOK.

12 Books at ..	1/8
24 " " ..	1/6
36 " " ..	1/5
48 " " ..	1/4
72 " " ..	1/3
144 " " ..	1/1

Numbering in Duplicate
3d. per book extra.

You never know what may happen. A copy of your correspondence will perhaps become

A VITAL NECESSITY

Start now. Send your order, together with your copy and cash, to save delay.

Size 8x4½

Thickness,

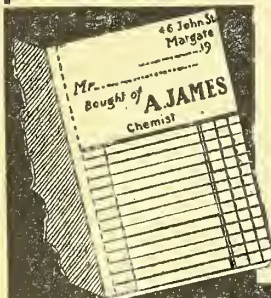
100 Leaves in Duplicate.

First leaf printed any ordinary heading and perforated. Second leaf plain and fast. Paper, good White Bank. Binding, Wired, Stout Kraft Paper Covers. Carbon, one sheet per book.

Feint or Single Cash Lines
No Extra Charge.

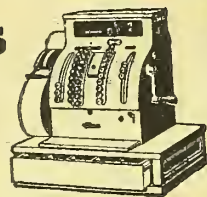
Sample Leaves free upon application.

J.C. KING LTD.
42 GOSWELL RD., LONDON, E.C.1.



The "Charterhouse"
Duplicate Order or Memo Book

Opportunities for Retailers



We often take back used Cash Registers when customers are installing larger or more up-to-date machines. These National Cash Registers

Thoroughly Overhauled and Rebuilt

are sold under the Company's full guarantee at reduced prices.

Write for details of "Nationals" available to—

Dept. R.2, The National Cash Register Co. Ltd.
225 Tottenham Court Rd., London, W.1.

U.S.A. GILLETTE BLADES

1 box 26/6 3 boxes 26/- box.

RAZORS. "Challenge" (2/6) 19 - doz.: 3 doz. @ 18/-
5/- Series @ 28/- doz.

VALET 504 Series (25/-), Nickel-plated 38/- doz.
"99" 2/6 Razors, 22/- doz.: 3 doz. 61/8
Blades, 36/- box. Strops, 20/- doz. 6/- C Model Razors, 48/- doz.

THE NEW 7/6 RAZOR, 5/3 each.

EVER-READY BLADES

28/6 gross (2-gr. 14/6) 31/6 gross, with 24 Razors (1-gr. 16/6)
New Wall Cabinets 2/- Sets, 16/6 doz., 3 doz. for 46/9. MONKEY STROPS 3/9 each
Pins and's Hongroise 4/- doz. Coty's, Houbigant, L. T. Piver's Face Powders stocked.
Rouge DORIN, etc.

Our own line of Shaving Brushes. English made, unbreakable handle, each packed in carton, 3 sizes, 18/-; 22/6; 28/- doz.
Send for List. Goods post paid. Terms Nett.

ALFRED FRANKS & CO., 23, Bartlett's Buildings,
HOLBORN CIRCUS, LONDON, E.C. Telephone: Holborn 4760.

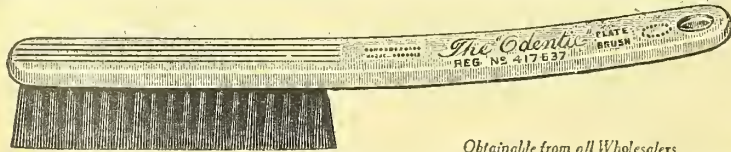
G. B. KENT & SONS, LTD.

Are known the World over as
the Largest Manufacturers of

**BEST
BRITISH
BRUSHES**

Please write for full Particulars to—

75 Farringdon Road, E.C.1.



Obtainable from all Wholesalers.

"ODENTIC" PLATE BRUSH

(Reg. No. 417637)

For ARTIFICIAL DENTURES

Manufactured by—

W. R. SPEER & SON (Estd. over 100 years)

Tooth-Brush Makers.

215 DALSTON LANE, LONDON, E.8.

CHRISTMAS LINES.

SOLE WHOLESALE AGENTS IN SCOTLAND FOR POTTER & MOORE'S LAVENDER AND PERFUMERY:—

MUNRO, M'LAREN & SUTHERLAND, 17 Cadogan Street, GLASGOW.

Note.—There has been no change in management or co-partners of this firm.—A. B. M'LAREN, Sole Partner.

Large and varied stocks of BRUSH AND COMB SETS, MILITARY BRUSH SETS, MANICURE SETS, PERFUMERY, PERFUME SPRAYS, HANDBAGS, and other Toilet Articles suitable for the Modern Pharmacy.

An effective, absolutely simple, cheap dressing, for the cure of
VARICOSE ULCERS, CHRONIC ECZEMA, INFLAMED ECZEMA.

Used by thousands of physicians with success all over the world.

VARICOSAN-BANDAGE

(Varix-Sanare)

Being extensively advertised to the Medical Profession.

ASK FOR PARTICULARS TO YOUR WHOLESALE HOUSE.



Stocks held by Colonial Houses :

Australia : Welch Perrin & Co. Pty. Ltd., Melbourne.

S. Africa : Lennon Ltd., Capetown, Durban, etc.

India : R. C. Sohoni & Sons, Princes Street, Bombay.

Sole Concessionaire for Great Britain & the Colonies, U.S.A., China & Japan :

J. P. MADDEN, F.C.S.

4 QUEEN STREET PLACE
LONDON, E.C.4.

Cables - - - "LANDSLOH, LONDON."

Zeal's CLINICAL THERMOMETERS

are

BRITISH MADE

by

BRITISH LABOUR

from

BRITISH GLASS

and

GUARANTEED

PERMANENTLY ACCURATE

G. H. ZEAL, LTD. 75 & 77 St. John Street
LONDON, E.C.1

NORVIC CRÊPE BINDERS

PRESERVE THE FIGURE



Beautifully elastic, stretching to double their length, they are universally recommended for all cases where elasticity, durability and adaptability are required. Hygienic, rubberless and washable, they are

**INVALUABLE
IN MATERNITY**

Made in 6, 8, and 11 in. widths, they give that natural support which every woman desires, preserving the figure before and restoring it after childbirth.

Sole Manufacturers:

**GROUT & CO., LTD.,
GREAT YARMOUTH.**

Stocked by all leading Wholesalers
London Agent: T. S. Eastaway,
35 Wood Street, E.C.1.

National Health Insurance
Drug Tariff, Oct.-Dec. 1925.
announces: New B.P.C. Crêpe
Bandage Specification comes
into force January 1, 1926.

'SURCO' Seamless Hosiery

FOR QUALITY.

SEND FOR CATALOGUE TO PATENTEES AND MANUFACTURERS,
SURGICAL HOSIERY CO., LTD., Dept. B, RUSSELL STREET, NOTTINGHAM.



WM. WARNE & CO. LTD.

29 GRESHAM STREET, E.C. 2.

India Rubber Manufacturers,

Surgical, Chemical, Domestic Articles, Syringes,
 Water Beds, etc.



Dr. SCHOLL'S ZINO PADS

For Corns, Bunions,
and Callouses.

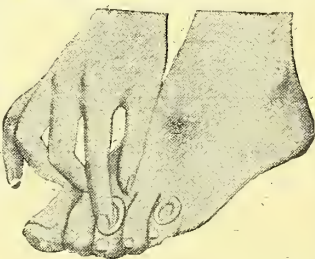
Being simple to apply, effectual
in use and heavily advertised,
they have secured the major
part of the enormous and
increasing demand for corn,
bunion and callous remedies.

**Put one on—the
pain is gone.**

Dr. Scholl's Zino Pads remove the cause, prevent all chafing and
rubbing, are self adhesive—require no strapping, are applied in three
seconds and do not come off even when bathing. Retail price per box 1/3.

Write for Illustrated Catalogue.

The SCHOLL MFG. CO, LTD., Granville Square, London, W.C.1



Compass

(Regd.)

HOT

WATER

AIR CUSHIONS.
WATER BEDS
BED PANS.
BED SHEETS.
NURSING APRONS

DOOR MATS.
SURGICAL GLOVES.
DOUCHETUBING.
G.P. TISSUE.
SOAP MATS.



BOTTLES
GEORGE MAC LELLAN & CO. LTD.
 Glasgow Rubber Wks. Maryhill, Glasgow.

ENSURE SATISFACTION

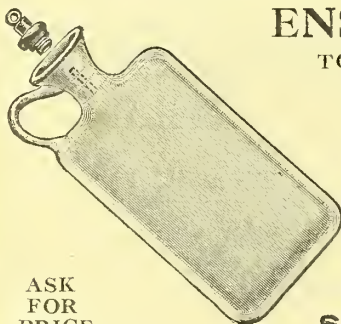
TO YOURSELF AND YOUR CUSTOMER
 BY SELLING ONLY



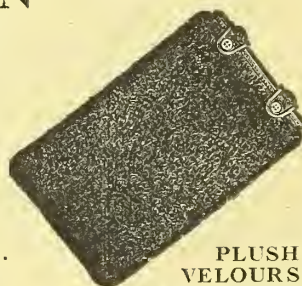
BRITISH MADE
 HOT WATER BOTTLES AND COVERS.

SOLPORT BROTHERS, Ltd.

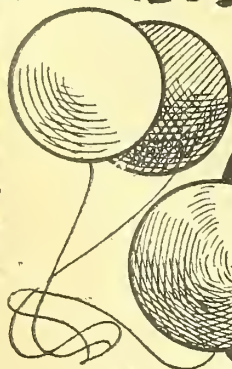
184/190, GOSWELL ROAD, E.C.1.



ASK
 FOR
 PRICE
 LIST.



PLUSH,
 VELOURS,
 MOLLETON,
 &c.



Advertising Balloons

SQUEAKERS,
 DYING BOARDS,
 SWANS, BIRDS,
 ELEPHANTS, &c.

WHOLESALE & EXPORT
 ENQUIRIES INVITED.
 WE ARE ACTUAL MANUFACTURERS

JOSEPH HARRIS & COMPANY

RUBBER WORKS, BROADHEATH, ALTRINCHAM.

A VERY EFFECTIVE
 FORM OF ADVT.
 SPECIAL DESIGNS
 SUBMITTED.

H. GORDON (LONDON), Ltd.

8 CITY ROAD, LONDON, E.C.1.

DRUGGISTS' SUNDRIES AND SURGICAL RUBBER GOODS

WHOLESALE AND EXPORT ONLY.

Every
Chemist
should
stock this
Outfit.

Absolutely
the
best value
now on the
market.



REGD
UNSURPASSED
FOR
CLEANLINESS
AND
SIMPLICITY



Dummy
Samples
supplied
for
Window
Display.

Cartons
lined with
Corrugated
Cardboard
suitable for
export
packing.

Contents: Double-ended Bottle, Brush, Transparent Ribbed "Gordonia" Teat, and Helmet-shape Valve.

APPLY FOR SAMPLES AND PRICES OF OUR SOOTHERS, TEATS, TUBING, ENEMAS, ETC.

WE ALSO HOLD A GOOD RANGE OF FANCY GOODS SUITABLE FOR THE XMAS SEASON, and invite you to VISIT OUR SHOWROOM at the above Address.

Sole Agents for ANCIENS ETABLISSEMENTS THESSIER, Manufacturers of the Celebrated FEVRE SELTZOGENES AND SYPHONS.

Telephone: Clerkenwell 1714 & 1715.

Telegrams: "GORDONOTUS," LONDON

Our Advertising
to the USER
emphasizes:—



simply say
geisha
your
PROFIT
is **40%**

Sample Roll, prices and terms from:

H. C. STERN,
12 Farringdon Avenue, London, E.C.4.

Telephone: Holborn 3140. Telegrams: Glastos, Lud, London.

Obtainable from all Wholesale Factors.

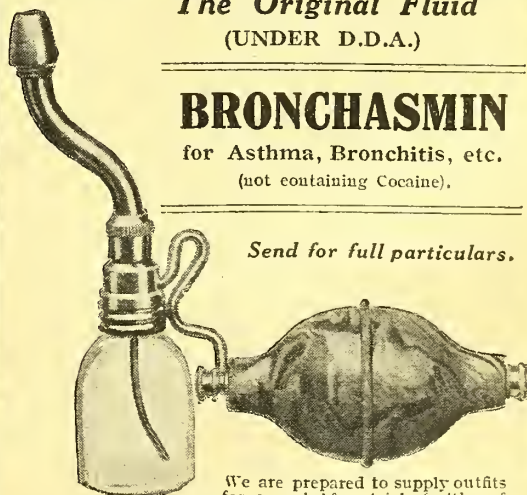
Dr. N. TUCKER'S ASTHMA REMEDY

The Original Fluid
(UNDER D.D.A.)

BRONCHASMIN

for Asthma, Bronchitis, etc.
(not containing Cocaine).

Send for full particulars.

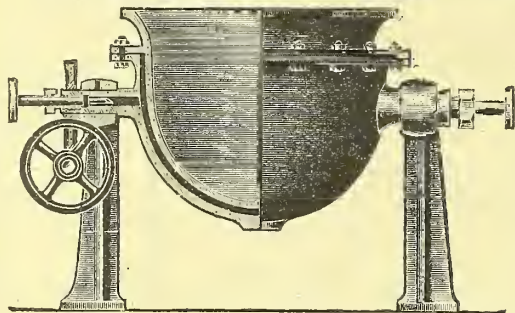


We are prepared to supply outfits
for 2 weeks' free trial of either of
above to any of your customers.

A. Q. TUCKER & Co., Ltd.
491, Oxford Street, London, W.1.

ENAMELLED IRON APPARATUS

Suitable for all Temperatures and Pressures



DANTO ROGEAT & CIE,

33-39 Chemin des Culattes, LYONS, France.

Suppliers before the war to the largest European Manufacturers of Chemical Products.

Write for Price List to Sole Representative:

H. SLOOG, 45 Great Marlborough Street,
Telep.: Regent 2400. LONDON, W.1.

COLLAPSIBLE TUBES!

HAVE YOU SEEN

Cowles' Filling and Closing Machines?

3 NEW MODELS HAND, PEDAL, AUTOMATIC £10:10:0 upwards

ECONOMY SPEED LABOUR-SAVING
DETAILS ON APPLICATION

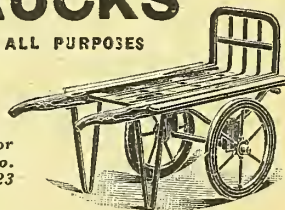
E. Cowles, Hounslow, London, W.

TRUCKS

FOR ALL PURPOSES



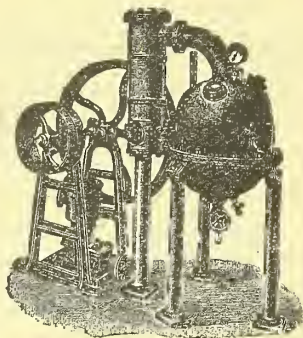
Send for
List No.
C.D. 823



W. B. STUBBS & SON (Estab. 1836)

Manufacturers of Trucks and Handcarts
of every description,

Progress Works, HAWKSWORTH, NOTTS



STILLS, VACUUM STILLS, VACUUM PANS.

EVAPORATING PANS.

AUTOClaves AND DIGESTORS.

**SPECIAL APPARATUS AND PLANT
FOR MANUFACTURING CHEMISTS.**

SOLE MAKERS of BENNETT'S PATENT 'IDEAL'
ANNULAR FILM CONDENSERS.
SHEARS' PATENT MULSER.

BENNETT, SONS & SHEARS, LTD.

ENGINEERS & COPPERSMITHS,

43 & 44 Shoe Lane, LONDON, E.C. 4.

ALUMINIUM BOXES

OF EVERY DESCRIPTION

*Plain, Frosted,
Decorated.*

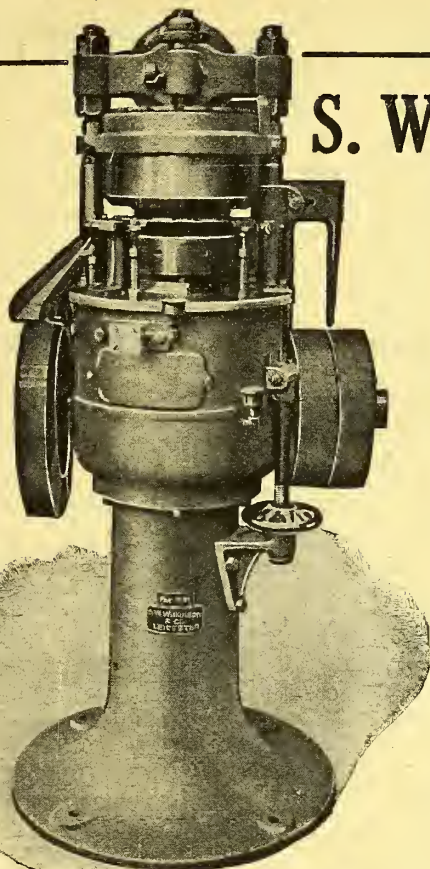
The Ideal containers for Toilet Preparations.
Special screw-lid Boxes for Face Powders

WHOLESALE QUANTITIES ONLY

Ernest Taylor Limited

MANUFACTURERS OF
HIGH CLASS TIN AND ALUMINIUM BOXES

BREEZE LANE WORKS
WALTON, LIVERPOOL



S. W. WILKINSON & CO.

WESTERN ROAD, LEICESTER.

Rotary Tablet Machines

These Machines are now made in 4 sizes :

12-Punch Ordinary for Tablets from $\frac{3}{8}$ " to $\frac{7}{8}$ " diameter.

Output 400 per min.

20-Punch Ordinary for Tablets from $\frac{1}{4}$ " to $\frac{1}{2}$ " diameter.

Output 700 per min.

12-Punch Heavy for thick Tablets and Blocks

1" diameter. Output 250 per min.

18-Punch Heavy for thick Tablets and Blocks

1" diameter. Output 400 per min.

LISTS ON APPLICATION.

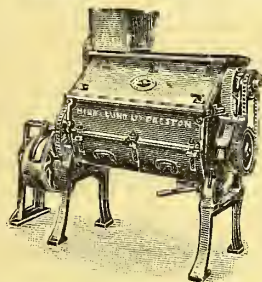
SINGLE punch machines made in 5 sizes for tablets from $\frac{1}{8}$ " to $1\frac{1}{2}$ " diameter, also lozenges.

MACHINES FOR BATH SALT TABLETS

"ATLAS" PATENT SIFTERS & MIXERS

Combined or Separate Machine, for hand or power.

Fitted with all our latest improvements.



BALL and PEBBLE GRINDING MILLS.

Various Sizes.

**HIND & LUND, LIMITED,
ATLAS WORKS,
PRESTON.**

Established 1791.

SPEEDY MANIPULATION without WASTE!

The 'HANDY' FILLING MACHINES

(FOR LIQUIDS OR SEMI-LIQUIDS).

The Pharmacist's "RIGHT HAND"!

PRICES (capacity from 40 Fluid ozs.).

No. 1 in HEAVY TIN-PLATE	-	13/6 each
ditto (in copper, tinned inside)	-	25/- "
No. 1a (tin-plate fitted to adjustable stand)	-	32/6 "
ditto (in copper, tinned inside)	-	42/6 "

NETT DELIVERED.

Larger machines can be supplied. Correspondence solicited.

SOLE MANUFACTURER:

T. LAUDER (L.C.T. Lauder), 7 Exmouth St., Leeds

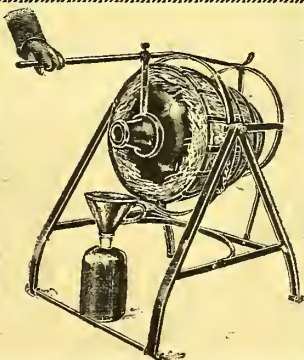
CARBOY STAND AND TILTER.

For drawing off small quantities of acids, etc. from Carboys, with ease and safety.

The Carboy can be tipped to any position with one hand.

R. & H. LEIGH & SONS, LIMITED.

Carboy Hammer Manufacturers,
BOLTON.

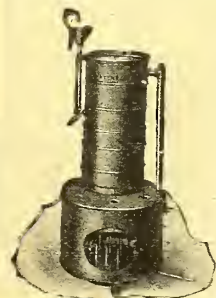


DISTILLED WATER

Brown's Stills are perfectly automatic. Can be run night and day without attention. Patented in U.K. and Continental Countries.

Extraordinarily efficient and economical. Made for gas, steam, oil or coke fire heating.

Full particulars and prices free on application



BROWN & SON,
Alembic Works,

Wedmore Street, Holloway, N.19

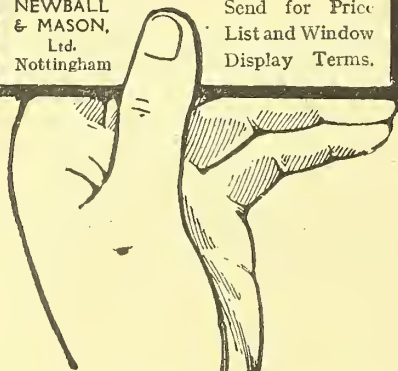
Now is the time
to order

MASON'S WINE ESSENCES

AVOID IMITATIONS

NEWBALL
& MASON,
Ltd.
Nottingham

Send for Price
List and Window
Display Terms.



DURA

(Veuve Dumas—Reeve Angel)

PHARMACEUTICAL FILTER PAPERS

Pure Cotton Cellulose.

H. REEVE ANGEL & CO. LTD.
9 BRIDEWELL PLACE, LONDON, E.C.4.



CASTLE
BRAND

CARAMEL

Stands all tests and gives a brilliant solution.

W. HARVEY STEEL & COMPANY

CASTLE SACCHARINE WORKS, LIVERPOOL. Estab. 1878



UP, UP, UP, go the SALES of NEW ZEALAND

"Imperial Bee"
HONEY

STOCK, and get your share of profits in this
EMPIRE PRODUCT. It is a thick
creamy irresistible HONEY, rich in vitamins
because it is uncooked.

GUARANTEED PURE and WITHOUT PRESERVATIVES.

CASES per doz. carriage paid

48/1's Glass Screw-Top Jars at 14/0 | 48/1's Monopots at 12/6
48/1's " " " " 8/6 | 48/1's " " 7/3

If you cannot obtain supplies through your Wholesaler, write to

A. J. Mills & Co., Ltd., 14 Tooley St., S.E.1

NURSE HARVEY'S MIXTURE

A safe, simple and reliable remedy for Children's
Ailments is advertised so extensively in the daily
and weekly Press as to bring mothers to the
retailer without effort on his part.

The selling has been done before the mother
reaches the chemist, and, having supplied her, it is
only common sense to claim she will buy other
family necessities from him. Moreover, the con-
tinuous demand for it produces a quick turnover

For Direct Terms apply to—

OSCAR SCRUTON & CO., YORK

BOOKS FOR PHARMACISTS.

Send us a post card and we will send you a
32-page catalogue of professional and busi-
ness books for Chemists and Druggists.
These are American books and will give
pharmacists in other lands the secrets of the
wonderful success of druggists in the U.S.

The SPATULA, BOSTON 14, MASS., U.S.A.



PURE ORANGE WINE

A. MILLAR & CO., LTD., DUBLIN

(VINUM AURANTII B.P.)

Prepared in strict accordance with the Formula of the British Pharmacopœia.

(Wholesale only).

Samples from Head Office, Thomas Street, DUBLIN, or London Office, 74 Great Tower Street, LONDON, E.C.3.



You may with confidence recommend



as the Ideal Food-Drink for all ages.

It is price-protected, and the sales are directed through Chemists.

HORLICK'S MALTED MILK COMPANY,
Slough, Bucks, England.



BEST PURE COLZA OIL

REFINED

Enquiries solicited
for all Grades of Oil

Langley-Smith & Co.

14-20 St. Mary Axe,
London - - E.C.3

Telegrams :
"Tallowdom, Phone, London."

Telephone :
Avenue 3820.

9

JOHN WATNEY & CO. LTD. DISTILLERS

Manufacturers of
finest doubly rectified
grain spirit especially
suitable for all manu-
facturing chemists,
druggists & perfumers

The Distillery
YORK RD., WANDSWORTH
LONDON, S.W.18.

ESTABLISHED NEARLY A CENTURY.

THE STANDARD GLASS & HARDWARE CO., Ltd.

GLASS BOTTLES
and JARS

MEDICAL
GLASSWARE

SURGICAL
GLASSWARE

CHEMICAL
GLASSWARE

STRICTLY
WHOLESALE ONLY

26 FINSBURY SQUARE, LONDON, E.C.2.

Telephone :
Clerkenwell 1772

Alcohol for Industrial Purposes Duty-Free Spirit.

The Industrial Spirit Supply Company, Limited.

Agents: HONEYWILL BROS., Ltd., 79 MARK LANE, LONDON, E.C.3.



HOW would your business fare in the event of Accident or Sickness causing you to be temporarily disabled, and consequently leaving it devoid of your supervision ?

A PERSONAL ACCIDENT AND SICKNESS POLICY

is the only safeguard against financial loss in such circumstances. Therefore, write to-day for particulars to

THE LICENSES AND GENERAL INSURANCE CO., LTD.

24, 26 & 28 MOORGATE, LONDON, E.C.2

Established 1890.

RATES FROM £1 UPWARDS.

Funds exceed £650,000.

WHITE

WHITE and Half-White Oils for use in manufacture of Brilliantine, Pomades, Toilet Preparations, etc. These oils can also be supplied in any shade of Green, Yellow, Golden or Red.
Prices on request.

STERNS LTD.

80 Royal London House,
Finsbury Square,
London, E.C. 2.

OILS

Don't use COMMON BOTTLES

There is nobody so fastidious as an Invalid. Cater to his fastidiousness by turning out your prescriptions in the best possible style.

There is no better help than a smoothly finished, bright, attractive bottle.

Buy BEATSON'S BOTTLES

ESTABLISHED 1751.

Beatson, Clark & Co., Ltd.
ROTHERHAM GLASS WORKS,
ROTHERHAM.

VISKAP

BOTTLE
(APS)

The
ORIGINAL-BEST
and
ONLY BRITISH MADE.
SELF-FIXING, HERMETIC,
TRANSPARENT, OPAQUE, COLOURED
IMMEDIATE DELIVERY
FROM THE MANUFACTURERS!

VISCOSE DEV.CO LTD. BROMLEY KENT.

WAGNER'S DRY BOTTLE CAPS

BEST IN QUALITY & APPEARANCE



Self-Fixing
R.V. WAGNER
33, Brooke St., London, E.C.1.
Tel. No. Holborn 5090

Continuous and Steadily Advertised Goods
FOR DESTROYING RATS AND MICE

DANYSZ VIRUS

Retail Price (protected). Net Wholesale Prices
Virus for Rats and Mice, single tube, 2/- .. 15/- per doz.
" " " 3 tubes, 5/- ..
Virus for Mice only - single tube, 1/6 .. 9/- " "
" " " 3 tubes, 3/- ..
Date-expired tubes returned to us postage paid will be exchanged free of charge.

Danysz Virus in Liquid Form

Retail Price. Wholesale Price
Quart Bottles 6/- each .. 4/6 each
Pint " 4/6 " .. 3/9 "

HALLER'S EXTRACT OF SQUILL and DANZO RAT KILLER

Discount off Retail Prices 25% Monthly Account, or 33 1/3% cash with order.

	Retail	Monthly a/c	Cash with order
1/2 gall. tins ..	10/-	7/6	6/3
1 " " ..	18/-	13/6	12/-
1 " " ..	30/-	20/-	18/4

DANZO BEETLE POWDER

For destroying Blackbeetles, Cockroaches, Crickets, &c.
Retail Prices (protected). Wholesale Prices per doz.
In tins 3d. In boxes of 2 doz. 2/1
" 6d. " " 1 " 3/8
" 1/- " " 1 " 7/3
" 2/6 " " 1 " 18/-

Danzo Beetle Powder will not deteriorate by keeping.

CARRIAGE PAID ON ALL ORDERS.

To be obtained from

HALLER LABORATORIES, LTD.,
325 Borough High Street, LONDON, S.E.1

Telegram: "Virudana, Sedist, London."

Telephone: Hop 2717

FOR LABEL AND GENERAL PRINTING

Apply to

ROBERTS & NEWTON

11 CARTHUSIAN STREET, LONDON, E.C.1.

City 1631.

ESTABLISHED PRINTERS TO THE DRUG
TRADE FOR NEARLY FORTY YEARS.

ENVELOPES

BIRMINGHAM ENVELOPE COMPANY
LIMITED

7 Mary Ann Street, BIRMINGHAM,

Manufacturers of Special Envelopes.

GREASEPROOF AND POWDER BAGS

PHOTO WALLETS

PRESCRIPTION WALLETS

TOOTHBRUSH ENVELOPES

TRANSPARENT ENVELOPES in any size and shape

Samples and Prices on application.

CORRYS TOBACCO POWDER 1/9 & 3/- tins

FOR LICE ON CATTLE & ALL ANIMALS

SOLD BY YOUR CHEMIST

THE ORIGINAL & BEST

Belongs 1/3

Direct or from Wholesale Houses NO SIGNATURE REQUIRED

CORRY & CO.
Shad Thames, London, S.E.1

SHERLEY'S DOG MEDICINES, INSECT POWDER, SHAMPOO AND LACTOL.

(P.A.T.A.)

These preparations command a ready sale, and are by far the largest advertised of any on the market. They are protected at prices that leave a good margin of profit for the retailer, and the terms on which they are supplied preclude any possibility of loss. We have an excellent range of literature and show cards, and do all in our power to assist chemists by referring mail customers to them.



WRITE FOR PRICE LIST
AND TERMS.

A. F. SHERLEY & CO., LTD.

18 MARSHALSEA ROAD, LONDON, S.E.1

Tel. No.: Hop 1897.

Telegrams: "Sherleydam, London."



GREETING

THOMAS HARLEY

Proprietor of "Rodine,"
—The Piper o' Perth—
sends heartfelt greetings
to all his Chemist Friends
throughout the United
Kingdom, Ireland and the
Colonies. May 1926 prove
a happy and successful
business year to everyone
without exception.

Perth, Scotland,

25th December, 1925.

WESTMINSTER COLLEGE OF PHARMACY.

**WILLS' UNIVERSAL
POSTAL SYSTEM**

FEES (BRITISH ISLES)

Part 1 or 2 - - £1 1 0

Parts 1 and 2 - - £1 11 6

For Qualifying, Preliminary and Apothecaries Hall Examination. Individual subjects may be taken.

Full particulars from The Principals,

190 CLAPHAM ROAD, S.W.9.

MANY SUCCESSES IN THE EXAMINATIONS

Your Opportunity to

QUALIFY IN OPTICS

PRACTICAL WORK. Students taking the course may receive personal tuition in the practical work AT ANY TIME DURING THE COURSE.

Expert Tuition for the SIGHT-TESTING DIPLOMAS of the Worshipful Company of Spectacle Makers (F.S.M.C.); the British Optical Association (F.B.O.A.); the National Association of Opticians (F.N.A.O.); or the College of Optics (F.C.O.).

Write for full particulars—

G. A. SCURR, M.P.S., F.S.M.C., F.B.O.A., F.N.A.O., B.Sc., F.I.O., F.C.O.
50 HIGH STREET, BARNET, LONDON, N.
S.A. Representative: E. E. G. WOOLLEY, F.S.M.C., M.P.S., c/o H. Neil & Co.,
215 Bree St., Johannesburg.
N.Z. Representative: R. C. AITCHISON, Box 168 PALMERSTON, NORT.**LONDON COLLEGE OF PHARMACY**

(FOUNDED BY H. WOOTTON, B.Sc.)

C. W. GOSLING, Ph.C.

Principal—W. F. GULLIVER, Ph.C.

Courses of Instruction provided for

MINOR EXAMINATION.

DAY, EVENING AND PART-TIME CLASSES.

Next Term commences January 6, 1926

Apply—THE SECRETARY, 361 Clapham Rd., LONDON, S.W.9

**THE
BATH AND WEST OF ENGLAND COLLEGE
OF
CHEMISTRY & PHARMACY**

Principal: D. J. WILLIAMS B.Sc. (Hons.) Lon., Ph.C., F.C.S., F.S.M.C.

EFFICIENCY. ECONOMY. SUCCESS.Full and Revision Courses for Major,
Qualifying, Hall and Optical Examinations.

CORRESPONDENCE COURSES.

OVER £200 WON AT SCHOLARSHIP EXAMINATIONS.

Apply: The Secretary, 5 and 6 Cleveland Place, E. BATH.

Liverpool School of Pharmacy

2 BLACKBURNE PLACE, LIVERPOOL.

Principal—

H. HUMPHREYS JONES, A.I.C., F.C.S., Ph.C.

Courses of Instruction are given in preparation for the Preliminary Scientific and Qualifying Chemist and Druggist Examinations of the Pharmaceutical Society.

NEXT SESSION COMMENCES OCTOBER 1926.

Students can be booked now.

Full particulars from Principal.

**Postcard Enlargements
Per Return of Post**

2/- for 12. 1/3 for 6. 3d. for single.

Off one negative.

Send for our Enlarging List, the cheapest in the Trade.

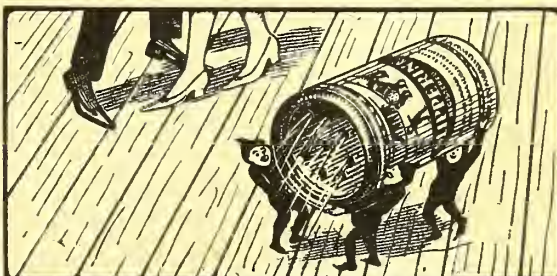
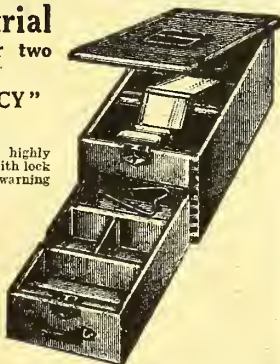
A. J. SHAWYER & CO.

12 WOOD STREET - - SWINDON, WILTS.

Sent on 14 days' trial
upon receipt of Cash or two
Wholesale references.**DUDLEY'S "EFFICIENCY"
CASH TILL.**

Size 8 x 9 x 7 1/2 in.

Solid Mahogany, dovetailed corners, highly polished finished lid, and drawer fitted with lock and key. Check action and automatic warning bell to drawer. Three cash compartments and one for notes.

Price **69/6** Each.List No. C.D. 801 of other
Tills free on request.**DUDLEY & COMPANY, LTD.,**558-576 Holloway Road, London, N.7.
City Showrooms: 65 Fove Street, E.C.3**SLIPPERINE
DANCE FLOOR POLISH****DECORATED TINS
P.A.T.A. 1/6, 2/6, 10/6**
From the Wholesale Trade
or the Makers
Johnston & Adams,
Dundee, Scotland.



Is your transport to be trusted-

not only with your merchandise but also the goodwill of your House? Can you trace business to the direct influence of smart, speedy and reliable vans bearing your name? Are your vehicles as economical

in operation as you anticipated? These are the questions the astute Business Man should weigh, and if in any case the answer is in the negative, existing transport should be replaced by . . .

BEARDMORE

15 cwt.

BOX VANS

30 cwt.

BEARDMORE MOTORS LTD.

Principal Proprietors—Wm. Beardmore & Co. Ltd.

112 Great Portland Street, London, W.1

Phone: Museum 8770 (3 lines).

Telegrams: "Eromāraeb, Wesdo, London."

ANNIESLAND - GLASGOW.

4 Imperial Buildings, Oxford Road, MANCHESTER.

AYRTON-GRAHAM, Ltd.

Designers and actual manufacturers of

FITTINGS

For the MODERN PHARMACY.

Shop Fronts, Show Cases, Exhibition Cases, Counter Cases, Counters, Wall Cases, Glass Signs, etc., etc.

PHARMACIES MODERNISED.

ALL GOODS OF BEST QUALITY AND FINISH AT LOWEST RATES.

Competent Fitters sent to all parts.

106 DUKE STREET, LIVERPOOL.

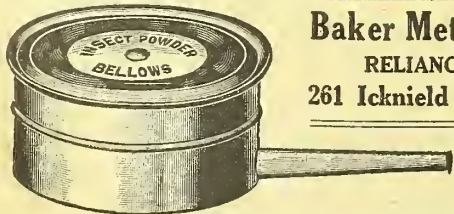


Every Wise Farmer
"Uses TIPPERS,"
VITALIS

The Best Drink for all Animals.

B. C. TIPPER & SON,
Veterinary Chemical Works, Birmingham.

Powder Bellows



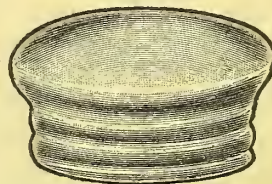
Aluminium Boxes

Baker Metal Stopper Co. Ltd.

RELIANCE STOPPER WORKS

261 Icknield Street, BIRMINGHAM

SCREW CAPS in ALL Metals.



Telegrams: "Screwcap, Birmingham."
Telephone: Northern 1562.

OVERALLS

for Chemists & Druggists

Jackets and Coats of very superior quality, made from the most reliable materials, smartly cut and thoroughly well finished in every detail.

WHITE DRILL JACKETS 6/11, 8/11, 10/6
KHAKI DRILL COATS 7/11, 10/6, 12/6, 14/11
WHITE DRILL COATS 10/6
BLACK DRILL COATS 16/6
UNBLEACHED COATS 8/11

STOCK SIZES: 34 to 44 chest; measure over waistcoat. Special pockets and little adjustments can be made without extra charge. **POSTAGE** on single coat 9d., but 20/- orders upwards carriage paid. **SPECIAL PRICES FOR LARGE QUANTITIES.**

GARDINER

& CO. (The Scotch House), LTD.

1, 3, 5 COMMERCIAL RD., LONDON, E.1.

Telephone: Avenue 6650

Established 1837.

BRANCHES:

Deptford, Edgware Road, Woolwich, Clapham Junction and Knightsbridge.

CELLOPHANE

The ideal **transparent** wrapping **absolutely** harmless, air and grease proof, as used by all the leading Perfumers, Soap Manufacturers, etc., etc., for wrapping Soap, Drugs, Tablets, Bath Crystals, Perfumery, Surgical Dressings, Sponges, Puffs, Soothers, Tooth Brushes and all Articles of Toilet.

Cellophane can be had in sheets, all sizes and colours; also in the shape of **Bags, Discs, Envelopes**, printed or not, allowing the contents to be seen by transparency.

Cellophane wrapped goods **look better—keep better—sell better.**

Cellophane **protects, beautifies** and adds the quality touch.

Prices, Samples and Particulars from
The CELLOPHANE COMPANY
 7, 8 and 9 Bird Street, LONDON, W.1

Also 305-7 PRODUCE EXCHANGE, MANCHESTER.
 35 MILLER STREET, GLASGOW.

Collapsible Tubes



Quality in Design and Finish
 of Containers are essential
 Selling Factors of Your Goods.

**The Best only should Serve.
 For the Best go to Betts'.**

Betts & Co. Ltd.
 1. Wharf Rd., City Rd.
 London. N.1.

Established 1857.

PRECIPITATED CHALK

LIGHTEST, MEDIUM, DENSE
And All Other Grades To Suit Every Purpose
CHEMICALS FOR ALL INDUSTRIES.

'Phone: Central 4613.

Tel. Add.: "Levermore, Phone, London."

A. LEVERMORE & CO., LTD. ABC Codes
8-10 GT. ST., HELENS, LONDON, E.C.3 5th & 6th Editions

FRED K. FINK & CO.

10 & 11 MINCING LANE, LONDON, E.C.3.

SPECIALITIES.—Gums Arabic and Tragacanth as Imported or finely powdered



Those First Grey Hairs
appear just
← here
Touch them up with
TATCHO-TONE *Post Free*
Medical Guaranty with bottle. Chemists Prices 2/6 & 4/6
or direct to the Tatcho-Tone Co., 5, Gt. Queen St., W.C.2

The Evan Williams

**ALWAYS IN GREAT DEMAND.
PRICE LIST ON APPLICATION.**

The EVAN-WILLIAMS Co., Ltd., 14/15 Union St., W.1.

ORIGINAL SHAMPOO.

*A prosperous New Year
to all—is the wish of*
4/6 Muswell Hill Rd.,
Highgate, N.6. **VANORE Ltd.**



SHADEINE

For COLOURING GREY HAIR

This popular article is largely advertised
and stocked by all Wholesale Houses.
Trial size 8d. per doz. . . . 6/-
1/4 size, per doz. . . . 23/-
2/6 size, per doz. . . . 23/-
3/9 size, per doz. . . . 36/-

The SHADEINE CO., 58 Westbourne Grove, London, W.2.



CHAMOIS. SPONGES.
HOUSEMAIDS' GLOVES.
CHAMOIS PADS.
23, Blackfriars Street,
Manchester.
Send for Price list
John T. Barradell,
Phone: Manchester Central 2785. Wires: "Sponges, Manchester"

Subscribe to THE PRESCRIBER for 1926

It will keep you closely in touch with all
developments in the Newer Remedies.
Annual Subscription 20/- post free anywhere.
Inclusive of all special numbers.

Through any Medical Bookseller, or direct from —
"THE PRESCRIBER" Offices, 6 South Charlotte St., EDINBURGH.

TO BEAT ALL BEETLES, CRICKETS AND ROACHES
sell your customer the famous RAT and MOUSE POISON.

FARMER'S "BAITED" PHOSPHOR PASTE.

No Swank!!! It really exterminates the pests mentioned.
ORDER TO-DAY from Sundry House, 4d., 7½d. & 1/3 Jars.
"RATMOUSINE," also our line in Tubes and Jars.
Both for Home and Export.

Proprietors: F. FARMER & CO., 1a, College Lane, Homerton, E.9

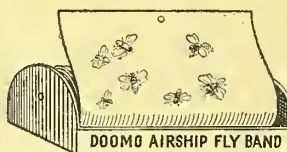
THE MANCHESTER SCHOOL OF PHARMACY

Founded 1882

292 OXFORD ROAD, MANCHESTER.

Principal: H. BRINDLE, B.Sc.Hons.(Lond.), A.I.C., Ph.C., F.C.S.

Prospectus sent post free on application.



Doomo AIRSHIP FLY BAND

The Effective Fly Band.
A wide and long band, sticky on
both sides, giving great effective
surface. Write for Quotations.

SMITH & CO.

Doomo Works - NEWARK.

For Cartons & Folding Boxes

BOXFOLDIA LTD.

TEN ACRES

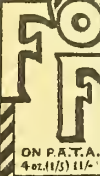
BIRMINGHAM

VERTICAL DEVELOPING TANKS for developing roll films. Made
of nickel silver, complete with rods, 4×4×26" deep, 17/6. 8×4×26"
25/-. 8×8×26" 35/-. N.S. film Clips 9d. each.

LANCASTERS' "AMPLUS" VERTICAL PRINTER makes large
size prints from small negatives. For gas or electric. Prices from 35/-

Write for full particulars.

J. LANCASTER & SON, Ltd., 87 Parade, BIRMINGHAM



FORSTER'S & VAPOURISERS
FENOLIN for
FLUID Whooping Cough
Hall, Forster & Co., Ltd.
Newcastle-on-Tyne.
ON P.A.T.A.
4oz.(1/5) 11/-

EXCLUSIVELY A PHARMACY LINE

P.P.T. PY-SHAN POINTS TEA
SECURES YOU REGULAR CUSTOMERS
AND 7d. PER POUND PROFIT.

Write for full particulars to — Thos. Christy & Co., 4/12 Old Swan Lane:
E.C.4

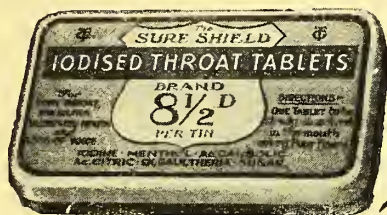
LONDON DEPOT :
1 SWAN STREET,
MINORIES, E.1
Telephone : AVENUE 6255.

THE SURE SHIELD



BRAND

IODISED THROAT TABLETS



8½d. Tins

5/6 per doz. 63/- per gross

1s. 3d. Tins

9/6 per doz.

108/- per gross

THOS. GUEST & CO., LTD., CARRUTHERS STREET,
ANCOATS, MANCHESTER.

A
**PHILIP JOSEPHS
& SONS LTD.**

**SHOWCASE
QUICKLY EARNS
ITS COST.**

Try One!

93 OLD ST., LONDON, E.C.1.
Phone—2191 Clerkenwell. Wires—"Josiphiah London."

IS THE LEASEHOLD SYSTEM HITTING YOU?

HAVE YOU SECURITY?
WILL YOUR LEASE BE RENEWED?
IF SO: AT WHAT RENT?
WHO IS GETTING THE PROFITS OF
YOUR BUSINESS—
YOURSELF or
THE GROUND LANDLORD?

IF THE LEASEHOLD SYSTEM IS
HITTING YOU, SUPPORT THE GREAT
POLICY OF REFORM SET FORTH IN

"TOWNS & THE LAND"

(Hodder & Stoughton, 1/- net)

and write to

THE LAND & NATION LEAGUE
25 OLD QUEEN STREET
WESTMINSTER - - S.W.1.

PRESCRIPTION PROFIT

Petrolagar

(DESHELL)

Trade Mark.

AN article which brings in prescriptions from the physician is the most profitable merchandise you handle.

One prescription from a doctor brought into your pharmacy is worth more than ten customers for a special cut price on a widely-advertised patent medicine.

PETROLAGAR is a prescription product. It affords you more profit than any other pharmaceutical preparation of its kind. There is no selling cost to you. It gives results to the patient—therefore it repeats.

It is a product which deserves your friendly influence.

PETROLAGAR is put up in four varieties:

PETROLAGAR PLAIN, No. 1. PETROLAGAR PHENOLPHTHALEIN, No. 2.
PETROLAGAR ALKALINE, No. 3. PETROLAGAR UNSWEETENED, No. 4.

In 8 oz. and 16 oz. Bottles, retailing at 3/- and 5/6 (P.A.T.A.)

PROFIT—25 per cent. on turnover.

PETROLAGAR has come to stay and you need have no fear of "dead stock." Our campaign, although strictly ethical, is none the less thorough, and comprises regular advertisements in the medical journals, monthly circularisation of medical practitioners, keen personal propaganda and very liberal distribution of clinical trial samples.

Prescriptions are sure to be brought into your pharmacy almost at once, and we would ask you to co-operate with us by holding at least a minimum supply of two or three bottles in order to meet requests that must arise.

Sole Manufacturers:

DESHELL LABORATORIES, LIMITED,
Southampton Row :: LONDON, W.C.1.

POTTER & CLARKE

60/64, ARTILLERY LANE LTD
LONDON, E.C.1.

Telephones : Bishopsgate 1033-4-5.

Telegrams : "Horsehound, Phone, London."

MANCHESTER : 24 LUNA STREET, GT. ANCOATS.



POTTER'S ASTHMA CURE

AND

POTTER'S CATARRH PASTILLES

ARE WIDELY ADVERTISED TO THE PUBLIC.

We are spending thousands of pounds to help you sell a line which yields you a handsome profit.

Potter's Asthma Cure
Potter's Asthma Cigarettes

P.A.T.A. 1/6. Dozen 14/-

Potter's Asthma Smoking
Mixture

P.A.T.A. 9d. Dozen 7/-

Potter's Catarrh Pastilles

P.A.T.A. 1/3. Dozen 11/-

Packed in beautiful Show Outers. Showcards for Counter and Window Display with all orders.



An Absolutely Unsolicited Testimonial

WE HAVE JUST RECEIVED
THE FOLLOWING:—

*“WILL you please send forward,
per post if possible, one or two
gross 4½d. tins ‘MENTHELLS’ and
4 lbs. Antiseptic Pastilles. I had
the misfortune to make a window
display of your ‘Menthells,’ and much
to my surprise I sold over one gross
tins in a week, so I am almost out.
I have had to withdraw the showcards
from the window.”*

BLYTON, ASTLEY & CO.

Gordon Street, Lower Broughton

Telegrams :

“TROCHES,” MANCHESTER.

MANCHESTER

*Sell the original
non-greasy toilet
preparation*

THE introduction of "HAZELINE" SNOW" initiated a new vogue in toilet preparations. The intervening time has made "HAZELINE" SNOW" one of the successes of pharmacy. A steady and reliable source of profit year after year.

**"HAZELINE"
(Trade Mark)
SNOW"**

In planning your displays, make a point of having this product in evidence. Its purity and elegance are in keeping with the character of the pharmacy; also, it *does* improve the complexion.

"Hazeline" Snow," issued in aluminium screw-capped glass pots, each pot in a decorative carton, at 15/- per doz. (subject).



BURROUGHS WELLCOME & CO.
LONDON

G 1243

COPYRIGHT

Reduced facsimile

BAYER PRODUCTS LTD. — ACTON VALE — LONDON, ENGLAND

ARE THE PROPRIETORS for the United Kingdom, Australasia, South Africa,
and certain other Colonies of the following (amongst other) trade marks

"LUMINAL"
"SAJODIN"
"PROTARGOL"
"OPTARSON"

"HELMITOL"
"SALOPHEN"
"NOVASUROL"
"THEOCIN"



Proceedings will be taken against any person selling or offering for sale under any of the said trade marks pharmaceutical products which are not issued by Bayer Products Ltd.

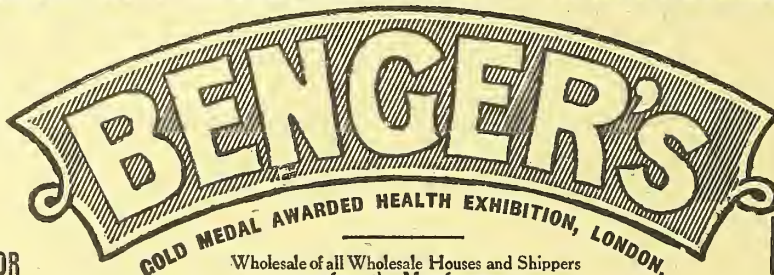
Make sure that all products sold under the above brands bear also the BAYER CROSS Trade Mark

Sole Agents for Australasia: FASSETT & JOHNSON, Ltd.
Sole Agents for the Union of South Africa: LENNON LIMITED, Cape Town and Branches.

Sole Agents for the Irish Free State: MAY, ROBERTS & Co. Ltd., Dublin

The *Lancet*
describes it as
"Mr. Bengers's
admirable pre-
paration."

**FOOD FOR
INFANTS**



Wholesale of all Wholesale Houses and Shippers
or from the Manufacturers

BENGER'S FOOD LTD., Otter Works, MANCHESTER, Eng.

Branch Offices at: 117 Pitt St., Sydney, Australia; 90 Beekman St., New York, U.S.A.
Canadian Agents: The National Drug and Chemical Co., Ltd., Montreal and Branches.
SHOWCARDS AND HANDBILLS ON APPLICATION.

The *British Medical Journal* says:
"Benger's Food
has by its excel-
lence established a
reputation of its
own."

**INVALIDS
AND THE AGED.**

CHILBLAINS

The prediction of a severe
Winter and the inevitable run
on preparations for . . .

CHILBLAINS AND CHAPPED HANDS

prompt us to issue this timely
notice for your consideration.

□ □ □

TOSA is sold with a MONEY-
BACK GUARANTEE. If your
customers do not find it all that
we claim we refund the money.

**STRIKING
GET-UP
AND
GOOD
SHOW
MATERIAL
SELLS IT.**

TOSA

IS A CHILBLAIN CURE AND PREVENTIVE

It sells at $\frac{1}{3}$ a bottle
Costs you 10/- per dozen

OUR BONUS OFFERS

ORDERS FOR 3 DOZEN
include bonus of 3 bottles.

ORDERS FOR 6 DOZEN
include bonus of 9 bottles.

Good display matter included.

THOS. CHRISTY & CO., 4/12 Old Swan Lane, London, E.C.4



A WEEKLY JOURNAL OF PHARMACY AND OF THE CHEMICAL AND DRUG TRADES

THE CHEMIST AND DRUGGIST is in circulation and reputation the leading journal addressing the Chemical and Drug trades in the British Empire and other countries in the Old and New Worlds. It is the official organ of the Pharmaceutical Society of Ireland, the Chemists' and Druggists' Society of Ireland, and of other Chemists' Societies in the Overseas Dominions.

SUBSCRIPTION RATE

TWENTY SHILLINGS a year payable in advance to any part of the world, including a copy of *The Chemist and Druggist Diary*. Subscriptions may begin with the first issue of any month. Single Copy, 9d., post free; *Diary*, 10s., post free. Postal orders and cheques should be crossed "Bank of Liverpool and Martins, Ltd."

TERMS FOR ADVERTISING may be obtained on application to
Head Office: 42 CANNON STREET, LONDON, E.C.4
 (Telegrams: "Chemists, Cannon, London." Telephone: Central 3617.)

Branch Offices: { 4 Cannon Street, Manchester. (Tel.: City 52.)
 { 54 Foster's Bldgs., High St., Sheffield. (Tel.: 2458.)
 { 19 Waterloo Street, Glasgow. (Tel.: Central 2329.)
 Melbourne and Sydney, Australia.

Contents

No. 26

Series 2396

Vol. 103

Business Changes ..	905	Progress of Pharmacy:—	
C. & D. Commercial Compendium ..	923	Agricultural Chemistry ..	893
Coming Events ..	912	Analytical Chemistry ..	893
Correspondence ..	920	Biological Chemistry ..	894
Deaths ..	905	Botany ..	893
Drug Index ..	915	Dentistry ..	897
Editorial Article:—		Essential Oils ..	897
A Year of Portents ..	908	Fixed Oils and Fats ..	898
English News ..	887	Industrial Chemistry ..	895
Insurance Act Dispensing ..	915	Materia Medica ..	899
Irish News ..	889	Medicine ..	899
Labelling Proprietaries ..	912	Optics ..	900
Legal Reports ..	890	Pharmaceutical Chemistry ..	891
New Companies and Company News ..	890	Pharmacology ..	901
Observations and Reflections ..	907	Pharmacy ..	891
Personalities ..	905	Photography ..	903
Pharmaceutical Society of Great Britain ..	915	Pure Chemistry and Physics ..	896
Pharmaceutical Society of Cape Province ..	904	Veterinary Medicine ..	904
Physico-Chemistry ..	913	Scottish News ..	882
Pictorial Review ..	911	Trade Notes ..	905
Recent Patents ..	915	Trade Report ..	916
Retrospect ..	922	Westminster Wisdom ..	905
		Winter Session ..	912

C. & D. Poisons Cards

WE have now on sale a new edition of No. 2 Poisons Card containing an Extended List of Scheduled Poisons, which is also adapted for use in carrying out the Labelling of Poisons Order. A large edition of this card was printed in August, but so great has been the demand for copies that this is now exhausted. In preparing the new edition the opportunity has been taken to make emendations which further experience has suggested. We desire to acknowledge our indebtedness to subscribers for suggesting many of the improvements that are made in the succeeding issues of the C. & D. Poisons Cards. A revised edition of No. 1 Poisons Card containing all the poisons schedules in force in Great Britain is also on sale. The C. & D. Poisons Cards are offered at the following prices for cash with order:—

	s.	d.
Per card, post free ..	1	0
3 cards ..	2	9
12 cards ..	10	0
25 cards ..	20	0
100 cards, carriage paid ..	60	0

English and Welsh News

The Editor will be obliged if subscribers will send him marked copies of newspapers containing items of interest for insertion in this or other news sections.

P.A.T.A. Council Election

The results in the election for the P.A.T.A. Council for 1926 are as follows:—

Manufacturers' Section.—Condy & Mitchell, Ltd., 241; Mellin's Food, Ltd., 209; Parke, Davis & Co., 188; A. J. White, Ltd., 184; D. & W. Gibbs, Ltd., 173; International Idilma Trading Co., Ltd., 162; Mrs. Pomeroy, Ltd., 62; Bristol-Myers Co., 32. The first five are elected.

Wholesale Section.—No contest.

Retail Section.—J. B. Francis, 2,001; A. Higgs, 1,990; S. N. Pickard, 1,984; R. Feaver Clarke, 1,931; W. G. McNab, 695; J. C. Culbert, 407. The first four are elected.

Arsenical Contamination of Apples

A circular (No. 659) has been issued to borough councils and other sanitary authorities by the Ministry of Health, directing attention to the presence of considerable quantities of arsenic on the surface of certain imported apples. Two cases of arsenical poisoning have been traced to the consumption of imported Jonathan apples, and samples of these apples which have been examined have shown various amounts of arsenic ranging up to $\frac{1}{10}$ gr. per lb. The Minister, the circular concludes, "desires to urge upon local authorities the necessity, especially during the next few weeks, of making full use of their powers under the Sale of Food and Drugs Acts, the Public Health Acts and the Public Health (Imported Food) Regulations to protect the public by the examination of samples of apples likely to be affected and by arranging for the withdrawal from sale of those which are found to be dangerously contaminated."

Contracts

The following tenders have been accepted by the bodies named:—

Lewes Guardians.—Boots, Ltd., drugs; Robert Bailey & Son, Ltd., dressings.

Liverpool

The Liverpool Pharmacy Club have arranged a New Year dance at the Yamen Rooms, Bold Street, for January 13.

Rumours are prevalent of still more chemists' shops being opened in the city, although the high rents and rates have had a deterring effect on some aspirants.

Dr. J. A. Clubb, Curator of the Liverpool Museum for many years, is resigning his appointment in three months' time. He has been a good friend to pharmacy, and is a brother of Mr. W. H. Clubb, Ph.C., Smithdown Road.

In connection with the League of ex-Service Pharmacists a hot-pot supper is to be held at the Bear's Paw Restaurant, Lord Street, Liverpool, on January 20. Applications for tickets should be made to Mr. W. J. Tristram, or to any member of the committee.

Local chemists report that the Christmas trade was only moderate, and that on several days business in the city was spoiled by damp weather, which caused the crowds to pour into the big emporiums. Some of the window displays attracted much attention, notably those of Boots, Ltd., Thompson & Capper, Ltd., Budden & Co., Ltd., Burgess, Ltd., John McJuffie & Co., and Mr. A. Lawrence.

Sheffield

Only half the usual amount is to be deducted from chemists' accounts for Insurance work during 1926.

The Rev. T. M. Archer has been appointed vicar of Walkley. Mr. Archer is on the Register of Chemists and Druggists, having passed the Qualifying examination in 1904.

Mr. F. Hindle, President of the Sheffield Pharmaceutical and Chemical Society, addressed the students at the Y.M.C.A., on December 18, on "Things that Worry the Boss."

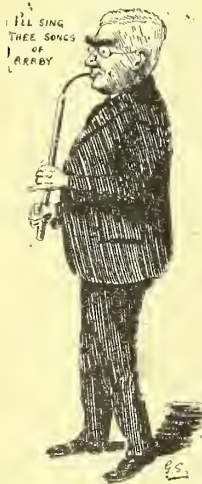
The window displays in the city are much above the usual standard this Christmas; but while the number of customers is quite up to or above the average, the amounts spent are somewhat small. G. T. W. News-holme, Ltd., are making use of the local newspapers, and Wallace Heaton, Ltd., have issued attractive booklets to advertise articles suitable for gifts.

The two papers read and discussed at a recent meeting of the Society of Glass Technology, at University College, London, were both provided by Sheffield. The first, "The Composition of Glass Suitable for Automatic Machines," was by Professor Turner; and the second, entitled "The Relationship between the Durability and the Chemical Composition of Glass," was the joint work of Miss Dimbley and Professor Turner.

An inquest was held, on December 16, on the body of James A. Stubbs, surgical instrument maker, City Road. The widow said that while cutting bread her husband wounded his finger. She bathed it in hot water and afterwards put sticking plaster on it. Medical evidence showed that death was due to blood poisoning from the cut, and a verdict in accordance with this evidence was returned, the deputy-coroner remarking: "Never put sticking plaster on a cut. Nothing is worse."

Manchester

In spite of inclement weather there was a good muster at the fortieth annual staff dinner of James Woolley, Sons & Co., Ltd., held at the Grand Hotel, Manchester, on December 18. Representatives from the warehouse and offices, Victoria Bridge; the works, Knowsley Street; the surgical instrument department, Deansgate; and the returns department and garages, Blackfriars Road, attended (about 120 in all), including the chairman of the company (Mr. E. J. Woolley), Mrs. Woolley, and all the directors. A miscellaneous entertainment concluded a very enjoyable evening.



MR. E. H. CHAPMAN
AND HIS BICYCLE-PUMP.

Miscellaneous

POISONING.—An inquest was held recently by the Croydon coroner on the body of Andrew Milroy, 30 Meulah Road, Thornton Heath, described as an analytical chemist. Evidence showed that Milroy carried out experiments in preserving food. He took alcohol in various forms, and on the morning of his death drank a solution of formaldehyde in mistake. A *post-mortem* examination showed that death was due to corrosive poisoning. A verdict of "Death by misadventure" was returned.

COLLEGE DANCE.—The annual dance of the Bath and West of England College of Pharmacy was held in the Concert Hall, Grand Pump Room, on December 18, and proved to be one of the most successful ever arranged by the College. The company, numbering about 180, consisted of past and present students with their friends. The natural beauty of the room was enhanced by special coloured light effects, and coloured streamers and balloons lent a seasonable touch to the proceedings. The arrangements were carried out by the entertainments committee.

STAFF FESTIVITIES.—The staff of The Hoffmann-La Roche Chemical Works, Ltd., Idol Lane, London, E.C., held their annual dinner and entertainment at Frascati's Restaurant on December 18. The directors and manager of the company were present, and the event was of a most enjoyable nature.—Scott & Turner, Ltd., manufacturing chemists, held their Christmas works gathering at the headquarters, Gallowgate, Newcastle-on-Tyne, recently, when 350 were present. The younger members of the staff contributed a programme of music. Mr. Gerald A. France (chairman of directors) said that the year's turnover had broken all records. Mr. Rutter Carr returned thanks on behalf of the workers.

PRIVATE ARRANGEMENT.—A meeting of the creditors of Mr. H. L. Overton, chemist and druggist, late of 12 George Street, Oxford, was held recently at Oxford. The chair was occupied by the representative of Harrington Brothers, creditors for £120. A statement of affairs disclosed liabilities £1,308 3s. 8d. The assets were estimated at £122 10s. 11d. (net, £112). It was reported that the debtor commenced business four years ago. His turnover had been as follows:—1922, £1,667; 1923, £1,574; 1924, £2,300; and 1925, £1,896. The drawings had been at the rate of £5 a week. In November last he disposed of the business, and received a total purchase price of £330 13s. 9d. He attributed his position to loss on trading, excessive law costs, and being unable to effect a more advantageous sale. It was decided that the estate should be dealt with under a deed of assignment in favour of Mr. Pigott. A committee of inspection was also appointed.

HAIRDRESSER'S LICENCE REVOKED.—On December 22 the public control committee of the London County Council revoked a licence granted to Mr. Joseph Caplan to carry on an establishment for massage or special treatment at 31 Charing Cross, S.W. It was stated that a Mr. Waldron went into Mr. Caplan's establishment to get his hair cut on December 5. An assistant told him he had a disease of the scalp and that he (the assistant) was fully qualified to treat him for it. He eventually persuaded Mr. Waldron to undergo a course of ultra-violet ray treatment, for which, with the "haircut," he paid £7 18s. 3d. This included a bottle of lotion and a box of ointment. Dr. Johnson, Brixton Road, said that Mr. Waldron had no disease of the scalp, and a chemist said the lotion was chiefly castor oil, water, and eau de Cologne, and could easily be sold for 5s. The ointment could also be sold at the same price. In reply to the chairman, Mr. Caplan said the lotion was usually sold at 10s. 6d. a bottle. A month's supply with violet-ray treatment was a guinea. The ointment was sold at 7s. 6d. The assistant had been dismissed. Mr. Caplan added that he had a turnover of about £20 a week, but kept no books.

Scottish News

Brevities

Boots, Ltd., have opened a branch in Hawick.

Mr. George Thomson, chemist and druggist, has taken over the business of Mr. G. S. Ogg, 44 Newmarket Street, Ayr.

"The general view of chemists," writes a correspondent, "is that 1925 might have been much worse from a business point of view, and hope is expressed that in 1926 things may be much better."

At a recent meeting of Kirkintilloch Merchants' Association Mr. G. Jarvie, chemist and druggist, was appointed Vice-President; and Mr. J. A. Kemp, chemist and druggist, a member of the Management Committee.

The Secretary for Scotland has issued an order under the Shops (Early Closing) Act, 1920, suspending the operation of the Scottish Early Closing Order from December 21 to December 31, 1925, both days inclusive. This does not relieve occupiers of shops from compliance with the terms of the Shops Act, 1912, or any Order made thereunder regarding the weekly half-holiday.

Edinburgh

Miss Hinksman, chemist and druggist, has taken over the business of Mr. J. K. McCairn, 2 Grange Road.

Manicure sets form a feature of the window displays of many drapers and hairdressers, but are rarely seen in those of chemists.

As a precautionary measure against the spread of foot-and-mouth disease, the police are requesting traders not to give away straw from packing cases. It is suggested that such straw should be burnt.

At Edinburgh University graduation ceremony, on December 18, the degree of M.D. was conferred upon Mr. William Frederick Mair, M.B., Ch.B., M.R.C.P.Ed., son of Mr. William Mair, F.C.S., of Fletcher, Fletcher & Co., Ltd., Holloway, London, N. Dr.

Mair's thesis, which received commendation, was on the subject of "Myositis ossificans progressiva." He has been appointed to the staff of the James Mackenzie Institute for Clinical Research, St. Andrews.

Glasgow

Miss A. F. Combs, chemist and druggist, has commenced business in Garscube Road, Maryhill Road.

John Smith & Son, chemists, 116 Main Street, Alexandria, have taken over the business of Mr. D. McNicol, 1191 Dumbarton Road.

Professor David Ellis contributed an interesting article on "Ferments and their Work," to the "Glasgow Herald," December 18.

Glasgow Corporation Health Committee has accepted the following tenders: Cockburn & Co., Ltd., and T. & H. Smith, Ltd., drugs, etc.; Baird Bros., dressings, etc.; Brown, Gray & Co., Ltd. malt and oil; Roxburgh Morgan & Co., Ltd., lysol.

At a recent meeting of Govan Ward Committee, the fact that all the chemists' shops close for the weekly half-holiday on Tuesday was discussed, and it was decided to write to the Town Clerk and the Chemists' Association, recommending that "at least two shops should be open in each district on Tuesday."

Masonic pharmacists and friends of Lodge Galen 1235 to the number of 260 met in the Grosvenor Restaurant on December 15 for their annual whist drive and dance. The R.W.M. Bro. Logan and Mrs. Logan welcomed the large company, and hoped that they would all thoroughly enjoy themselves. The whist part of the programme was supervised by Bro. Dr. T. S. Parrie, while the duties of M.C.s for the dancing were looked after by Messrs. Seaton, who were in full-dress Highland costume. The prizes were presented during an interval to the winners by Mrs. Logan as follows:—*Ladies*, Miss Maxwell, Miss Hunter; *Gentlemen*, Mr. Newgas, Mr. W. B. Clark. Shot dance winners were Mr. McPherson and partner. Dancing was kept up until 2 a.m. All the arrangements were in the hands of Bro. T. S. Johnstone, who, with an energetic committee, did everything to make a successful evening.

Irish News

Northern Ireland Pharmacy Act

The Home Office of Northern Ireland has fixed December 21 as the appointed day upon which the provisions of Parts II and III of the Pharmacy and Poisons Act, Northern Ireland, 1925, are to come into force. These parts of the Act deal with examinations, registrations and annual licences, and with general provisions as to the carrying on of business, and they are now in operation, except where it is expressly stated in the Act to the contrary. The decision has come as a surprise to the trade, because it was generally thought that the putting into force of at least some of these clauses would have been postponed until the spring or summer, so as to give the new Council time to get the necessary machinery into working order. The net result is that the Council cannot now recognise any outside examinations, including those of the Pharmaceutical Council in Dublin. Thus, if a Northern man now takes his Preliminary in Dublin it cannot be valid in Ulster. The Council will consider the difficulty at an early date. They have no power to make regulations, but it is felt that some temporary arrangement will be made with the Government to tide over the period that will elapse before the examination machinery is at work. As regards druggists, the difficulty can be got over under the Act, but in the case of pharmacists the question of reciprocity comes in, and some provision will have to be made to meet the needs of those who intend to come in for examinations in the near future. The Government had, however, no option but to institute the appointed day as early as possible, because under the Act all licences must be taken out on or before January 1, 1926, and the appointed day had to be fixed before that date because all

pharmaceutical chemists, registered druggists, assistants to pharmaceutical chemists and apprentices to pharmaceutical chemists, must be registered and licensed on or before the New Year, for, in default, they will be liable to the penalties described in the Act. The Home Office has issued a notice calling the attention of the trade to this fact, but the onus lies on the individual to apply for the licence. The registration fee is 5s., while the annual licensing fee for pharmaceutical chemists to keep open shop is £3 3s., and for chemists and druggists and registered druggists £2 2s. Applications for registration and licence must be made to the Registrar of the Pharmaceutical Society at the Ministry of Home Affairs, Belfast. The Registrar and Inspector have not yet been appointed, but the Home Office staff is discharging the necessary duties in connection with the inauguration of the Act.

Professor MacIlwaine, one of the two nominees of the Queen's University on the new Pharmaceutical Council, has intimated to the University authorities that he cannot spare the time to attend to the duties, and the University has accordingly nominated Professor James Small, D.Sc., F.L.S., M.R.I.A., to fill the vacancy, subject to the approval of the Home Office. Professor Small is professor of botany in Queen's University, and is, in addition, a British pharmaceutical chemist.

Intoxicating Liquor (Finance) Act

The cost of abolishing spirit groceries in Northern Ireland and compensating chemists for loss of profits through deprivation of wine licences has turned out to be much higher than was anticipated when the Intoxicating Liquor Act of 1923 became law, and in the Northern House of Commons on December 16 a measure was passed increasing the levy for compensation, which is being paid by the trade, and extending the period of repayment of the capital. The Minister of Finance, in moving the second reading of the Intoxicating Liquor (Finance) Bill, said it was estimated at the time that the aggregate amount entailed would be between £150,000 and £200,000. Already the sum of £380,000 was reached; there was still a small number of claims outstanding, and possibly the ultimate figure would not be far from £450,000. It had been necessary to come to the House to ask powers to increase the levy. The arrangement made with the trade was that the capital money should be extinguished in 50 years by payments of principal and interest. The House would realise that the comparatively short period of 20 years would be a very heavy burden on the trade, and they relaxed that provision and agreed to a 45 years' term. They had agreed also that the measure would not be brought into operation for another year, and, instead of imposing additional levy for the year they were entering upon, the trade would not be asked to start the larger levy until 1927. The Bill was passed by the Senate on December 17 and received the Royal assent on December 22.

Brevities

Dr. A. Keogh, M.O., Killane, wrote to the Wexford Health Board that no medicines had, so far, been received from the present contractors since early in August. Dr. Doyle, M.O., Bridgetown, wrote asking the Board to expedite delivery of drugs, as the supply was very low.

Cod liver oil is to be given to 364 school children in Derry at the instance of the local education authority. Officials called at 25 schools and selections were made from lists of names submitted. The oil is stated to be provided in the interests of the children, who, whatever their feelings, must take the daily dose.

The adjourned inquest into the circumstances attending the death of the six days' old female infant of a young unmarried woman named Annie Currie, Ervey, co. Derry, was resumed on December 17. Dr. C. A. Stevenson gave evidence of a post-mortem having been held by him in conjunction with Dr. F. W. Craig, and said death was caused by escherotic poison. Witness said that lysol was an escherotic poison, and added that he had been informed that the mother had been in the habit of walking in her sleep. The jury returned a verdict in accordance with the medical evidence. They further found that Annie Currie was in a comatose condition on December 6, and administered lysol to the child inadvertently.

Legal Reports

Pharmacy Act Cases.—In Blackpool County Court, on December 16, T. Curson, Knott End, was fined £5, with £10 costs, for keeping open shop for the sale of poison. Analytical evidence as to the contents of a bottle of Kay's Compound Essence of Linseed purchased at the defendant's shop was given by Mr. John Evans, F.I.C., Ph.C., Sheffield.—In Whitechapel County Court, London, recently, Portersgrange Pharmacy, Ltd., Southend-on-Sea, were fined £5 for failing to register with the Pharmaceutical Society the name of a qualified superintendent.

Shops Act Prosecutions.—At Belfast Police Court, on December 15, seventeen city pharmacists and druggists were prosecuted for selling articles other than those permitted by the Shops Act, 1912, on the half-holiday. These cases were in the nature of test cases, the points at issue having been the subject of prolonged controversy with the Police Committee. In the first case, Mr. Herbert McIlroy, R.D., York Street, was summoned for failing to comply with the weekly half-holiday on November 4. An inspector said he saw Mr. McIlroy serving a customer with a tooth-brush at 4.30 p.m. on the date in question, and the shop should have been closed at 1.30. Mr. A. J. Lewis, who prosecuted, said he did not think anyone could contend that a tooth-brush was a surgical appliance. Mr. John M. Hamill, for the defence, said the definition of medical and surgical appliances was left very wide in the Act. It was more or less left to the discretion of the Court. He quoted the meaning of "medicine" from the Oxford Dictionary. "Appliance" was described as "a thing applied as a means to an end; apparatus." There was no subject they heard more about at the present time than the care of the teeth as a means to the preservation of the health of the people. He therefore contended that a tooth-brush should come within the meaning of "medical appliances." Mr. Lewis said he presumed Mr. Hamill was not serious in his argument. The same argument would apply to a nail-brush, or a scrubbing-brush. The stipendiary announced that the majority of the magistrates considered that a tooth-brush was not a medical appliance. They dismissed the case under the Probation of Offenders Act, the defendant to pay Court costs.

Hugh Marshall & Co., Ltd., chemists, Victoria Street, were similarly summoned for an alleged breach of the Act. An inspector said that at 8.10 p.m. on November 18 he saw a customer in defendants' shop being served with a bottle of hair dye. Mr. Campbell (producing a bottle) said that defendants instructed him that they sold a bottle of Danderine. Mr. Marshall said dandruff was a disease of the scalp, and the material he sold was for removing that disease. Mr. Lewis: Here is what is on the bottle: "Never comb or damp your hair without dampening the brush with a little. This is a splendid beauty habit. Brush your hair with the moist brush and note the softness, lustre and appearance of abundance and youthful beauty. Note how easy your hair is to manage—how curls and waves last in your hair." (Laughter.) This is the description given of the medicine?—Yes. Is brilliantine a medicine?—Yes. The stipendiary said that the magistrates thought it was a medical appliance, and they dismissed the case.

"GINGER WINE ESSENCE"

In the summons against Grattan & Co., Ltd., chemists, for selling a bottle of ginger wine essence at their establishment in University Road it was contended for the defence that the brand was a medicine. The manager of the premises said that ginger wine essence was recognised as a specific for certain stomach spasms. It was generally taken with hot water. The Stipendiary: Do you contend that this ginger wine essence is a medicine?—I do, and it is frequently taken by the poor. The Court ruled that ginger wine essence was not a medicine, and reserved decision till all the cases were heard.

The evidence against Mr. Alfred W. Maun, Ph.C., Donceall Square North, was that he sold photographic requirements at 2.45 p.m. on a half-holiday. Mr. Johnson, for the defence, said the articles were sold by a junior assistant in mistake. The case against Mr. James Dundee, Ph.C., University Road, was of a similar nature. Mr. James Guthrie, R.D., York Street, was summoned for selling Huxley's antiseptic powder at 3 p.m. on an early-closing day. Mr. Johnson, for the defence, said it

was baby powder which the defendant sold, and it was used as a medicine for children who were suffering pains. The Court held that it was a medicine within the meaning of the Act and dismissed the case. The defendants in the other cases were:—Mr. Robert Andrew, Crumlin Road; Mr. Charles Matthews, Falls Road; Mr. Robert W. Laird, Grosvenor Road; Mr. John Wellwood, Grosvenor Road; Mr. William J. McKee, Grosvenor Road; Mr. Thomas Richardson, Sandy Row; Mr. Alfred W. Stevenson, Dublin Road; Mr. John P. Bowden, Dublin Road; Mr. James Wellwood, York Street; Mr. George Kirk, York Street; and Mr. Thomas McGurk, East Bridge Street. The evidence in these cases was that photographic films, tooth-brushes, shaving cream and powder were sold after closing-hours. In these cases the offence was admitted. Mr. Hamill, addressing the Court on behalf of the defendants, said he thought the Court recognised that these summonses were brought in the nature of test cases. The defendants were respectable traders, doing their best to carry on a business of public necessity in the best way they could. The stipendiary announced that the Court found the charge in each case proved, but they dismissed all the cases under the Probation of Offenders Act, as they thought there were extenuating circumstances. Each defendant was ordered to pay Court costs.

New Companies and Company News

P.C. means Private Company and R.O. Registered Office.

FINE'S CASH CHEMISTS, LTD. (P.C.).—Capital £500. Objects: To carry on the business of chemists, druggists, chemical manufacturers, dealers in pharmaceutical and medical preparations, photographers, etc. R.O.: 351 Lea Bridge Road, London, E.

RENTOKIL, LTD. (P.C.).—Capital £500. Objects: To acquire benefit of certain trade marks relating to disinfectants, ointments and embrocations, particularly the registered trade mark "Rentokil," No. 452,262. R.O.: 10 Hatton Yard, Hatton Garden, London, E.C.1.

CARTERS CASH CHEMISTS, LTD. (P.C.).—Capital £500. Objects: To carry on the business of chemists and druggists, manufacturers of and wholesale and retail dealers in drugs, medicated wines, etc. The directors are: S. Furst and L. Wolfson. R.O.: 49 Bath Street, Glasgow.

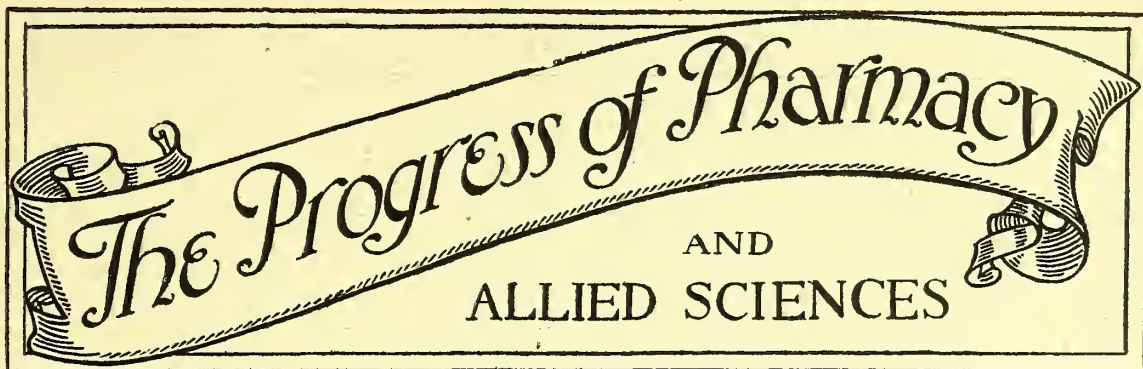
FERRIS CHEMISTS (LONDON), LTD. (P.C.).—Capital £1,000. Objects: To acquire the business of a retail chemist and druggist and retailer of photographic and allied materials, carried on by R. Blackie, at 134 High Street, Peckham. The directors are: R. H. Ferris and Helen Jackson.

FINLAYSON & STUART, LTD. (P.C.).—Capital £10,000. Objects: To carry on the business of drysalers and chemists, refiners, extractors, grinders, manufacturers, merchants, etc. The directors are: Mrs. M. Dunsmore, J. Burnett, and R. F. Ker. R.O.: 16, Calton Road, Regent Arch, Edinburgh.

MIRVALE CHEMICAL CO., LTD. (P.C.).—Capital £25,000. Objects: To acquire the land, buildings, fixtures and machinery formerly belonging to the West Riding Chemical Co., Ltd., at Steanard Lane, Mirfield, and to carry on the business of manufacturers of and dealers in chemical products, manufacturing chemists, etc.

CONCENTROIDS, LTD. (P.C.).—Capital £100. Objects: To carry on the business of manufacturers and vendors of human and veterinary medicines, patent and otherwise, etc. The directors are: S. C. Hunn, 5 The Court, Cascade Avenue, Muswell Hill, London, N.10, and G. R. Neal, Fir Cottage, Brasted, Kent, merchant.

WILLIAM J. FISK, LTD. (P.C.).—Capital £6,000. Objects: To carry on the businesses of retail druggists and pharmaceutical chemists, drug merchants, and methylated spirit dealers, carried on by W. J. Fisk at 186 Above Bar Street, Southampton; 16 Bridge Street, Southampton; and 41 High Street, Shirley, Southampton; and by Herbert Ferryman, Ltd., at 64 Bellevue Road, Southampton. The directors are: W. J. Fisk and R. Leeson. R.O.: 186 Above Bar Street, Southampton.



The Progress of Pharmacy

AND ALLIED SCIENCES

PHARMACY

Mercurial Ointment.—L. Ducasse ("Bulletin des Travaux de la Société de Pharmacie de Bordeaux," No. 4, 1925) gives the following method for the extemporaneous preparation of mercurial ointment: Triturate 0.6 gram of red mercuric oxide with 2 grams of balsam of Peru in a large mortar, add 100 grams of mercury and a mixture of 38 grams of vaselin and 50 grams of lanolin and mix until the metal is uniformly incorporated. The mass is now vigorously stirred so as to spread it over the sides of the mortar and thus facilitate the absorption of 10 grams of solution of hydrogen peroxide, added gradually in small portions while working up the ointment. Extinction of the mercury takes place completely and immediately; examination of the ointment under a magnifying glass fails to reveal the presence of globules of mercury.

Bismuth Subnitrate Injections.—E. Sonnenberg ("Deutsche medizinische Wochenschrift," September 11, 1925) states that an emulsion of bismuth subnitrate has been in regular use in the St. Alexander Hospital in Lodz since 1922 for the treatment of syphilis with highly satisfactory results. He summarises his observations by stating that bismuth subnitrate is therapeutically quite as effective as any other bismuth compound; it displays a definite and lasting action, and in the form in which it was administered the injections do not give rise to any untoward effects and are well borne. The emulsion has the advantage that it can be readily prepared in any pharmacy and will keep unaltered for a considerable period. It consists of: Bismuth subnitrate 10 grams, novocain nitrate 1 gram, sterile almond oil 100 grams. An intramuscular injection of 1 c.c. (=0.07 gram of bismuth) is given every three days.

A Nutrient Beef-Tea.—Arthur Edmunds ("Lancet," II, 1925, p. 633) gives the following recipe:—Pound 2 oz. of fillet of beef in a mortar with 1 oz. of cold water, press the resulting paste through a wire sieve with the back of a wooden spoon or a vegetable presser. Return what comes through the sieve to the mortar. Pour into the mortar on top of the pounded meat 6 oz. of boiling bouillon, clear soup, or, if nothing better is available, one of the commercial meat extracts. Stir this up and then pass it again through the sieve, which still has some particles of meat entangled in its meshes, which particles get washed through with the broth. The result is a reddish fluid which sets into a jelly after a few hours, and should measure about 8 or 9 oz.: that is to say, the whole of the 2 oz. of fillet of beef are contained in a tumblerful of liquid. The meat is very lightly cooked, but if the bouillon is skilfully prepared there is no raw taste. Other kinds of beef can be used, but they are inferior to fillet, as they contain more fat and fibrous tissue.

Ferrated Oil.—E. Winberg ("Pharmazeutische Zentralhalle," November 26, 1925) describes a method of preparing a concentrated and stable ferrated oil, miscible in all proportions with cod-liver oil. Dissolve 312 grams of potassium hydroxide in 160 grams of boiling water; add 400 grams of alcohol (91 per cent.), and then, in a thin stream, 1,400 grams of almond oil, previously warmed to 60°-70°. As soon as saponification is complete, add

480 grams of solution of ferric chloride (50 per cent.), previously heated to boiling, and stir the mixture for ten minutes, whereupon 200 grams of almond oil is added, the whole transferred to a large flask and vigorously shaken for five to ten minutes. The flask is then set aside at 30°-40° for a few days, when as much as possible of the lye and crystals of potassium chloride are siphoned off. Add to the residue 200 grams of ether and 50 grams of freshly fused, cooled, sodium sulphate, and allow the mixture to stand for a few days at 30° to 40°. The ethereal solution of the oily mixture is then passed through cotton wool, the ether and the alcohol are removed by warming on a water bath, and, if necessary, the residual water is evaporated by heating on a sand bath at a temperature not exceeding 105°. The resulting product contains about 6 per cent. of iron.

PHARMACEUTICAL CHEMISTRY

Methyl Alcohol Test.—As a result of a series of comparative tests, B. Olszewski ("Roszniki Farmacji," Nos. 1-2, Vol. III) is of opinion that the most delicate test for methyl alcohol consists in oxidising the latter to formaldehyde, by means of potassium permanganate, and demonstrating the presence of formaldehyde by means of the violet colour produced by apomorphine hydrochloride. The reagent consists of a solution of 0.02 gram of apomorphine hydrochloride in 10 c.c. of sulphuric acid, and the test can be carried out on a watch glass, or by carefully layering the two solutions. With this test it is possible to demonstrate the presence of 0.001 per cent. of formaldehyde, corresponding to 0.02 per cent. of methyl alcohol.

Diphenylamine as Indicator in Ferrous Titrations.—J. C. Krantz and M. J. Vidal have used diphenylamine as an indicator for the assay of pill mass containing ferrous carbonate ("Journal of the American Pharmaceutical Association," October, 1925, 882). The indicator solution is made by dissolving 0.2 gram of diphenylamine in 100 c.c. of concentrated sulphuric acid. For assay about one gram of pill mass containing ferrous carbonate is dissolved in 15 c.c. of diluted sulphuric acid. After adding 35 c.c. of distilled water and 0.4 c.c. of indicator solution, titration is effected immediately with N/10 volumetric solution of potassium dichromate until a deep violet colour appears. Each c.c. of N/10 dichromate solution corresponds to 0.011584 gram of ferrous carbonate. The end-point of the titration is easily seen, and the method eliminates the troublesome spotting with potassium ferricyanide.

Citric Acid Manufacture.—E. H. S. Warneford and F. Hardy ("Industrial and Engineering Chemistry," Vol. 17, No. 12, p. 1283) have found it possible to produce directly calcium citrate of high purity, suitable for yielding white citric acid. The discoloration of products made from citrous juices is due largely to retention of oxidation products (phlobaphenes). The authors suggest as an improvement a preliminary cold process. The theoretical amount of lime for neutralisation is added at ordinary temperature as a thin cream made with fine grained lime. The temperature is finally raised to boiling point, and the calcium citrate collected in the usual way. By this method products fairly free from colouring matter can be made without the use of absorbent carbon. Two pro-

The Progress of Pharmacy and Allied Sciences

cesses utilising Norit (1 per cent.) were adopted to remove phlobatannin, this being added either when the juice has been partly hot-limed (PH 4.0), or when juice is one-third neutralised with sodium carbonate (PH 3.8).

Cinchona Alkaloids.—A. Deér ("Pharmazeutische Monatshefte," November 1925), as the result of a series of comparative experiments, recommends the following sensitive test for the presence of foreign cinchona alkaloids in quinine sulphate, based on the observation that potassium sulphate causes a considerable decrease in the solubility of these bases: 1 gram of quinine sulphate is dissolved, at a boiling temperature, in 40 c.c. of water in an Erlenmeyer flask of 100 c.c. capacity; the solution is quickly cooled and at the same time vigorously shaken. When cool, 5 grams of powdered potassium sulphate is added, whereupon the mixture is maintained at 20° (in a water bath) for 30 minutes, in the course of which it is frequently well shaken, and then passed through a pledget of cotton wool. Transfer 20 c.c. of the clear liquid to a dry beaker, add 5 c.c. of water and then one drop of solution of sodium hydroxide (20 per cent.), all accurately measured; no turbidity should occur either immediately or on standing.

Determination of Alcohol and Ethyl Chloride in Chloroform.—Clive Newcomb (December meeting, Society of Public Analysts) described the methods devised for determining alcohol and ethyl chloride in anæsthetic chloroform, and of removing them, so that the degree of purity of the residual chloroform can be ascertained from its physical constants. Alcohol is removed by washing the chloroform with water in a special apparatus, and by determining the density of the chloroform before and after the washing a measure of the amount of alcohol is obtained, while the difference between the density of the washed chloroform and that of pure chloroform affords a measure of the amount of ethyl chloride. By boiling the chloroform with potassium hydroxide solution under specified conditions the ethyl chloride is removed, and if the residual washed chloroform has the right density for the pure substance, it is unlikely that other possible impurities are present. Experiments were described showing the influence of the washing on the various substances in chloroform, and the effect of water, alcohol, ethyl chloride and other substances on the density of chloroform.

Morphine Assay.—E. Machiguchi and S. Shirono ("Yakugakuzasshi," October 1925) describe the following method of determining the content of morphine in opium, which yields accurate results not only with official samples, but also with those having a low content of morphine. Shake 8 grams of powdered opium (dried at 60°) for one hour with 2 grams of calcium hydroxide and 80 c.c. of water. Filter through a filter of 15 cm. diameter, and to 50 c.c. of the filtrate (=5 grams opium powder) add 1 gram of ammonium chloride and 20 c.c. of a mixture of ether 8 and benzol 2 parts; shake gently for ten minutes and then set aside for 20 hours. Collect the crystals which have separated out on a filter of 9 cm. diameter, wash them with 20 c.c. of water, and dry at a temperature not exceeding 60°. They are then washed with 20 c.c. of a mixture of equal parts of ether and benzol, dried at first at a gentle heat, then at about 96° to 100°. The alkaloid is now dissolved in an excess of *N*/10 hydrochloric acid, and titrated with *N*/10 alkali, using methyl red as indicator. The morphine content is ascertained by multiplying the number of c.c. of *N*/10 hydrochloric acid required by 0.5704.

Explosive Decomposition of Hydrocyanic Acid.—M. Walker and D. N. Eldred ("Industrial and Engineering Chemistry," 17, x, 1074) have investigated the behaviour of liquid hydrocyanic acid when confined in closed containers. Hydrocyanic acid of 95-98 per cent. strength is used for fumigation of scale insects and extermination of vermin in ships and warehouses; and the research was made in order to find out the cause of explosions which have occurred. The method of testing consisted in confining liquid hydrocyanic acid in a steel bomb and heating by a gas flame to a definite continuous

pressure (50, 70, 100, 150, and 200 lb. per sq. in.), until a sudden rise in pressure indicated that the secondary reaction period had commenced. With pure hydrocyanic acid the rise in pressure is sharply defined at 75 lb., and resembles an explosion at 100 lb. and upwards. The period of "incubation" is lessened rapidly after the 75-lb. pressure is attained. Ammonia, sodium hydroxide, sodium cyanide and water catalyse the reaction (increase the rate of decomposition and diminish the incubation period). Sulphuric acid and metallic copper act as stabilisers, especially when used together. The pressure increases were much sharper than the rises in temperature. Pressures of over 1,000 lb. per sq. in. were frequently experienced during the experiments, and polymerisation of hydrocyanic acid also occurred at atmospheric temperature without pressure increase, owing to balance of heat of reaction and loss by radiation. The results of the decomposition of hydrocyanic acid are a black solid polymer of the acid resembling willow charcoal, and various gases, with ammonia and carbon dioxide predominating.

Atropine Assay.—Broadly speaking, most of the published methods of assaying drugs are based on a determination of the total content of alkaloids; this is the case, *inter alia*, for atropine, cocaine, pilocarpine. P. Bourcet ("Bulletin des Sciences Pharmacologiques," November 1925) points out that the crude drugs used in the manufacture of atropine contain, in addition to the latter, hyoscyamine and a few other alkaloids which alone are of value to the manufacturer, since the other non-crystallisable bases, termed "amorphous bases," cannot be turned to account. However, as the method of assay adopted by manufacturers is in most instances essentially the same as the actual manufacturing process, there is a natural reluctance on their part to publish these methods, since this course would be tantamount to disclosing a valuable trade secret. The author describes a method of assaying atropine, which he suggests as a basis for agreement regarding the analytical standards of the raw material from which the alkaloid is obtained. An intimate homogenous mixture of 100 grams of powdered drug and 20 grams of calcium oxide is extracted with ether in a Soxhlet apparatus until a small portion, after the addition of hydrochloric acid, yields no reaction with Vaker's reagent. The ethereal extract is shaken with hydrochloric acid (2 per cent.), the acid solution is separated, filtered and rendered alkaline with a slight excess of solution of caustic soda, whereupon the bases set free are extracted with chloroform. The chloroformic extract is filtered through desiccated sodium carbonate into a tared flask, and after removing the chloroform by distillation the residue is dried at 100°, and weighed; this gives the total amount of non-volatile alkaloids. The flask is then heated to 120° for five hours to isomerise any hyoscyamine present in the drug, the crude bases are dissolved in boiling anhydrous ether, and the filtered ethereal solution is neutralised with an ethereal solution of oxalic acid. The precipitate of oxalate is washed with ether, dried at a temperature below 100°, and weighed. Provided the substance is found to be optically inactive, its weight is equal to that of the atropine sulphate present in 100 grams of the drug tested.

Micro-methods in Drug Analyses.—W. H. Gesell and M. A. Dittmar ("Industrial and Engineering Chemistry," Vol. 17, 3, 808) discuss micro-chemistry as an industrial economy with special reference to the examination of drugs. Satisfactory balances, sensitive to 0.01 milligram and 0.1 milligram, were obtained and used. The difficulty of sampling is overcome by taking that collected for ordinary macro-determination and reducing this to a fine powder in a special mill (which was originally designed for grinding poppy seeds and is very easy to clean). After grinding, the powder is spread on a circular sheet of paper, and divided into four quadrants, the material from two opposing sections being taken and re-ground. This operation is repeated several times, and it is stated that in this way a rela-

The Progress of Pharmacy and Allied Sciences

tively fair sample is obtained. From 20 to 40 milligrams of material used for ash determinations gave accurate and speedy results, the operation requiring about twenty minutes. Comparative data of ash determinations on drugs are given in the following table:—

Drug	Macro Method % Ash	Micro Method % Ash
Angelica root	14.37	13.81
Bryony root	8.83	8.44
Bouset herb	7.31	7.32
Chamomile flowers ..	11.8	11.4
Chestnut leaves	3.53	3.82
Coriander seed	5.14	4.83
Euphorbia Pilulifera ..	7.65	7.65
Gentian root	4.28	3.81
"	3.91	3.68
"	2.93	2.95
Ginger rhizome	19.30	19.33
Hyoscyamus	5.82	5.85
Insect flowers	2.88	2.85
Juniper berries	2.75	2.53
"	4.93	4.97
Larkspur seed	6.56	6.55
Lobelia herb	16.50	16.39
Mallow leaves	4.31	4.52
Mustard (yellow)	3.27	3.13
Nux vomica	4.04	3.91
Orange peel (bitter) ..	2.60	2.29
Orris root	7.7	7.62
Sarsaparilla	6.87	7.0
Thyme (French)	9.64	9.47
Valerian root	11.96	12.4
Wormwood		

Micro-methods for the assay of salts of the alkali and alkaline earths were developed, these depending upon conversion into sulphates. Results are also given for Kjeldahl determination and peppermint oil assay by micro-analysis, which are quite concordant with the results obtained by ordinary methods. The authors conclude that the results indicate a saving of 50 per cent. to 60 per cent. in the cost of analyses.

BOTANY

Transplantation of Plants.—Memoir 87, issued by the Cornell Experiment Station, relates to experimentation in the transplanting of crop plants. Little or no injury is done to vegetable plants when these are transplanted in the early seedling stages. With more mature plants the general result was to retard development and recovery from effects of uprooting, and transplanting is clearly correlated with rate of new root formation. Plants seriously injured by transplantation exhibit rapid aerial growth and slow development of new rootlets.

Distribution of Lignin in Wood.—G. J. Kitter ("Industrial and Engineering Chemistry," November, 1194) finds that the middle lamella of the woody cells of pine, red alder, and basswood contains lignin. Further, the claim that the middle lamella consists of calcium pectate seems to have a poor foundation as regards woods, for drastic treatment with pectin solvents (ammonium oxalate) was without apparent action. The percentages of lignin found (based on oven-dry weight of wood) were approximately 26 to 30, of which three-fourths was found in the middle lamella and one-fourth in the other layers of the cell wall; but the former figure is considered to be too high. The lignin of the middle lamella is light brown in colour, and possesses a structural form, whereas cell-wall lignin is almost black and amorphous. The methoxyl content of middle lamella lignin is about two and a half times that of cell-wall lignin.

AGRICULTURAL CHEMISTRY

Sulphur in Wart Disease.—W. A. Roach and W. B. Brierley, of the Rothamsted Experimental Station, issue a warning ("Nature," December 12, 1925) against relying upon sulphur as a trustworthy means of freeing soil from the parasite causing wart disease of potatoes. This year's test crops at Ormskirk were treated with

5 to 15 cwt. of sulphur per acre. In many cases the tubers failed to grow almost entirely, and the surviving plants showed considerable amounts of disease. This was much less than in the control plots—where, however, the plants grew well, but were heavily warted. At Hatfield, where two tons of sulphur per acre was applied, the crop was damaged and a considerable amount of wart disease was present.

Slow Process of Cyanide Fumigation.—E. R. Speyer and O. Owen ("Nature," October 31, 1925) state that hydrocyanic acid gas can be generated from a mixture of sodium bicarbonate, 3 parts, and sodium cyanide (98 per cent.), 1 part. The powdered mixture provides a slow process method of cyanide fumigation for controlling white fly (*Trialeurodes vaporariorum*) in tomato houses, when scattered on the dry paths in the proportion of one ounce to every 1,000 cubic ft. space. Mortality for the adult fly is as great as with gas from sodium cyanide and sulphuric acid, but the latter is slightly more lethal with scale stages. Economically slow generation has great advantages in saving labour and minimising scorching of plants. The same precautions are required as with jar cyaniding, but the slow process is safer on windy nights. It is not advisable to fumigate during heavy rain in leaky houses.

ANALYTICAL CHEMISTRY

Reagent for Aldehydes and Ketones.—O. L. Brady and Gladys V. Elsmie (December meeting of the Society of Public Analysts) reported that aldehydes and ketones can be identified by the crystalline forms, colours and melting points of the dinitrophenylhydrazones which they yield with 2,4 dinitrophenylhydrazine. A solution of the hydrochloride is a suitable reagent for aldehydes and ketones soluble in water; it gives a filterable precipitate with 0.003 grm. of acetone or acetaldehyde. The characteristics of the 2,4 dinitrophenylhydrazones of a number of the commoner aliphatic aldehydes and ketones were described.

Tartaric Acid Test.—A solution of pyrogallol, or of β -naphthol, in sulphuric acid affords an extremely sensitive test for tartaric acid and its salts, a definite violet or green colour being produced by a mere trace of tartaric acid. L. Elkert ("Pharmazeutische Zentralhalle," November 19, 1925) recommends the use of a solution of 0.02 gram of pyrogallol, or β -naphthol, in 5 c.c. of concentrated sulphuric acid; with the former tartaric acid produces an intense violet coloration, and with the latter a deep bluish-green colour (to effect solution of the β -naphthol a few drops of ethyl alcohol should be added). With these reagents lactic acid yields a bright red or brown, and malic acid a yellow coloration, while citric acid causes scarcely any appreciable change.

Determination of Phosphoric Acid.—In the determination of phosphoric acid as a magnesium ammonium phosphate, Gunner Jörgensen (December meeting of the Society of Public Analysts) reported that the most reliable method of obtaining magnesium ammonium phosphate of the correct composition is to precipitate it from a nearly boiling solution (accuracy about 1:1,000). In the author's experience this is the only sufficiently exact method for determining phosphoric acid in mineral phosphates and fertilisers. The author's molybdc magnesium method has been the official Danish method for nearly 20 years. Precipitation of ammonium phosphomolybdate in the cold is less accurate (accuracy about 1:100). Precipitation of magnesium ammonium phosphate from a cold solution gives a precipitate so much affected in composition by the conditions of precipitation that the method is unlikely to be made really satisfactory.

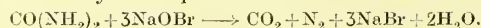
Hyperol is a compound of hydrogen peroxide and urea ($\text{CO}(\text{NH}_2)_2$, H_2O_2), containing 35 per cent. of hydrogen peroxide. Its use in analysis and research as a form of solid hydrogen peroxide is described by J. R. Booer in "Chemistry and Industry" (November 20, 1925). Hyperol is a stable white crystalline powder, which

The Progress of Pharmacy and Allied Sciences

begins to decompose into oxygen, water, and urea at 60°. In contact with water it dissociates, 1 gram of hyperol in 10 c.c. of water giving a solution of 10-volume strength. Hyperol is readily soluble in mixtures of water and alcohol up to 60 per cent. strength of the latter. With ether it forms a solution of free hydrogen peroxide which is practically anhydrous. The author indicates the various uses of hyperol as an oxidising agent of high efficiency and purity; also in the determination of sulphites and sulphides, estimation of formaldehyde, etc.

Volumetric Determination of Soluble Sulphates.—H. Atkinson (December meeting of the Society of Public Analysts) reported that sulphates in fairly dilute solution can be determined by precipitating them with excess of standard barium chloride solution, and titrating this excess with standard potassium stearate solution, the end point being shown by B.D.H. universal indicator. In volumetric titrations the end point is reached before the theoretical amount of barium chloride has been added, and this discrepancy varies with varying concentration, but is constant for equal concentrations, so that corrections, obtained by comparison with standard sulphate solution, can be applied. Metals forming insoluble stearates (e.g., aluminium, zinc, calcium, magnesium) are removed by precipitation with the potassium stearate solution prior to the titration of the sulphate. The limit of error in the method is of the order of 0.05 c.c. of a *N*/10 solution.

Urea-Hypobromite Reaction.—M. B. Donald ("Journal of the Chemical Society," October, 2255) finds that the reaction between carbamide (urea) and sodium hypobromite is completed to about only 90 per cent. of that represented by the equation:—



The formation of sodium cyanate is the reason for the non-completion of the reaction. The use of 40 per cent. brominated *N*/10 sodium hydroxide solution for gasometric determination of urea is unsatisfactory, and leads to inaccurate results, owing to change in composition of the reagent and variable heat development. The factor given in text-books for the above "hypobromite" solution is 0.92. Careful measurements with thermostat control and using freshly prepared, cool hypobromite gave 0.90 after applying all corrections to the volume of gas evolved.

Potassium Chlorate Assay.—A comparison of three methods used for assaying potassium chlorate has been carried out in the laboratories of Lehn & Fink, Incorporated ("Industrial and Engineering Chemistry," December, p. 1277). Reduction methods (chlorate to chloride) and subsequent determination of chloride were all found to be unsatisfactory, this being inaccurate to the extent of chloride already present. A method depending upon the reduction of chlorate by stannous chloride is accurate but impracticable, owing to the deterioration of standard reducing solution. The U.S.P. method using excess of ferrous sulphate for reduction and subsequent titration with potassium permanganate is open to improvement. The method used at the Frankford Arsenal is both satisfactory and accurate. In this method 0.5 gram of potassium chlorate is dissolved in distilled water and made up to 250 c.c. An aliquot portion (25 c.c.) is run into a 250 c.c. Erlenmeyer flask and 10 c.c. of distilled water and 10 c.c. of sulphuric acid (1:1) added. A Bunsen valve is inserted and the contents heated nearly to boiling. After adding 50 c.c. of a 4 per cent. solution of ferrous ammonium sulphate, the solution is boiled for two minutes and the excess of ferrous ammonium sulphate is titrated with decinormal solution of potassium permanganate. The difference between this result and a control test on 50 c.c. of ferrous ammonium sulphate solution gives the number of cubic centimetres required to reduce the potassium chlorate, 1 c.c. *N*/10 potass. permanganate solution being equivalent to 0.0020427 gram of potassium chlorate. A sample gave 99.77; 99.67; 99.87; 99.75; 99.77; average 99.77 per cent. One drop of permanganate causes a difference of 0.20 per cent. in the result.

BIOLOGICAL CHEMISTRY

Alcoholism and Diet.—H. W. Southgate ("The Biochemical Journal," XIX, v, 737) has investigated the concentration of alcohol in the blood and urine of human beings, dogs, and rabbits following the administration of alcohol (8 per cent. strength in tap water) under varying conditions of diet. A previous draught of milk lowers the concentration of alcohol in the blood, while a meal of bread and boiled whole milk have a still greater effect. Bread and water is equivalent to milk alone in depressing alcoholic content of the blood. Once the maximum concentration of alcohol in the blood has been attained, the rate of disappearance is the same for each individual, being independent of the concentration.

Bio-Assay of Aconite.—L. W. Rowe, in the "Journal of the American Pharmaceutical Association" for November (p. 968), gives comparisons of white mice with guinea-pigs as test animals for aconite assay. The cost of white mice is only one-tenth that of guinea-pigs (8 to 15, worth ten dollars or more, being required for a single test). The technique developed for mice was similar to that for guinea-pigs, except that intraperitoneal replaced subcutaneous injection, this giving more rapid and satisfactory results. The ratio of the dose between guinea-pig and white mouse in 22 tests ranged from 4 to 10. Eliminating the four extremes (4, 10, 10, 10) the average is 6.25, which was used in arriving at the following suggested standards for white mice:—

	Standard M.L.D. for guinea-pigs	Standard M.L.D. for mice
Fl. ext. aconite ..	0.000040 c.c.	0.00025 e.e.
Ext. aconite (solid) ..	0.000010 gm.	0.00006 gm.
Tr. aconite ..	0.00040 c.c.	0.0025 c.c.
Aconite ..	0.00000008 gm.	0.0000005 gm.

Tests on unknown aconite preparations show that though these were not indicative of great accuracy and dependability, the mouse method of assay was fully as accurate (or more so) than the guinea-pig test.

Toxicity of Iron Cacodylate Solution.—The toxicity of iron cacodylate solution varies according to the colloidal or ionic state of the iron, according to P. Masucci and G. A. Slothower ("American Journal of Pharmacy," Vol. 97, No. 9, p. 587). Branded solutions of iron cacodylate were found to produce abnormal irritation on intravenous injection owing to the iron being present in ionic form. By hydrolysing the solution and converting the iron into a colloidal state the administration of the preparations was devoid of objectionable features. Tests with animals showed that the colloidal preparation is only one-half as toxic as the ionic form of iron.

Colour Test for Vitamin A.—O. Rosenheim and J. C. Drummond ("The Biochemical Journal," XIX, V, 752) propose to utilise the brilliant ultramine colour given on adding cod-liver oil to arsenic chloride as the basis of a colorimetric method of evaluating the vitamin A content of this oil. Preliminary experiments indicate that rough colorimetric comparison with a suitable standard gives results of a higher degree of accuracy than by a laborious animal experiment. The reaction is carried out by adding 1 c.c. of pure arsenic chloride to one drop of cod-liver oil in a test-tube and shaking at once. The oil immediately dissolves to a clear blue solution, which assumes a purple tint within a few seconds and gradually fades. A well-defined absorption band (λ 550-590) persists under the above conditions for five minutes. The sensitivity of the arsenic chloride test is twenty times as great as the ordinary sulphuric acid coloration. The unsaponifiable fraction of cod-liver oil freed from cholesterol by means of digitonin reacted to arsenic chloride in a dilution of 1 in 2,000,000. Tests on a series of thirty oils and fats show complete agreement between colour intensity and growth-promoting activity towards animals. Butter from milk of a cow fed with cod-liver oil gave the reaction intensely compared with ordinary butters. The arsenic chloride reaction makes it possible to distinguish between growth-promoting vitamin A and the anti-rachitic vitamin D, since cholesterol made highly anti-rachitic by irradiation does not give the colour test,

The Progress of Pharmacy and Allied Sciences

Precisely similar blue colours are given by a number of other reagents which share with arsenic chloride the property of giving a permanent red colour with cholesterol when heated. These reagents are dimethyl sulphate, trichloroacetic acid, acetyl chloride and benzoyl chloride (the last two require the presence of zinc chloride). All react with cod-liver oil at room temperature, producing a transient blue colour fading within five to ten minutes. The reaction with trichloroacetic acid is particularly striking (giving a colour slightly more purple than with arsenic chloride), and it may be carried out by allowing a drop of cod-liver oil to fall upon a few crystals or by adding 1 c.c. of a freshly-prepared saturated chloroform solution of trichloroacetic acid to one drop of the oil. A suitable colour standard for the colorimetric comparison by the arsenic chloride reaction is a mixture of 100 c.c. of crystal violet solution (1:10,000) with 50 c.c. of methylene blue solution (1:10,000), both dyes being dissolved in alcohol. Under the stated conditions the colour produced by 20 milligrams of cod-liver oil (= 1 drop from a pointed glass rod 3 mm. diameter), plus 1 c.c. of arsenic chloride, matches the standard dye solution when diluted in the proportion 3:2. The comparison must be made rapidly. After a little experience there is no difficulty in arranging all oils according to their growth-promoting activity.

INDUSTRIAL CHEMISTRY

Geraniol as a Beetle Attractor.—A note in "Industrial and Engineering Chemistry" (Vol. 17, No. 22, p. 1247) states that the use of geraniol to draw beetles to a limited area has been developed during the past season by the Bureau of Entomology of the U.S. Department of Agriculture. Results are stated to be remarkably good as regard control of Japanese beetle in apple orchards, etc., since the beetle, attracted to a definite area, can be killed by a contact spray of pyrethrum oleoresin and soap.

Ethylene Glycol as an Antifreeze.—G. O. Curme, jun., and C. O. Young ("Industrial and Engineering Chemistry," November, 1117) consider that ethylene glycol ($\text{CH}_2\text{OH} \cdot \text{CH}_2\text{OH}$), which combines the properties of alcohol and glycerin, fulfils the most exacting requirements as an antifreeze material for motor-car radiators. It is an odourless and colourless liquid (boiling at 197°) and less is needed to produce a non-freezing solution for any given temperature than of either alcohol or glycerol. A 35 per cent. solution of ethylene glycol protects against -20° , and the solution is non-corrosive. Owing to its relatively low vapour tension, the loss by vaporisation is small, while the boiling point and heat capacity of the mixture are not changed materially from that of water, all advantages over alcohol.

Sodium Nitrite as a Meat Preservative instead of saltpetre is the subject of an article by W. L. Lewis, R. S. Vose, and C. D. Lowry, jun., of the Research Department of the Institute of American Meat Packers ("Industrial and Engineering Chemistry," December, p. 1243). This chemical was authorised for use in curing meat by the U.S. Bureau of Animal Industry on October 19, and its use is supported by scientific and economic reasons, since it is generally accepted that saltpetre must first be reduced to nitrite (probably by bacteria) before it possesses the property of producing the desired red colour in the cured product. This reduction is the initial step towards the formation of the colouring substance which is nitrosohemoglobin. A legal limit of 200 parts per million is imposed as the maximum amount of nitrite permissible in cured meats. Careful experiments on an industrial scale show that one-tenth of sodium nitrite may be used in place of the usual potassium nitrate in curing ham, bacon, tongues, and beef, whether this be used as a "sweet pickle," or as a "dry cure."

Properties of Fused Silica.—Elihu Thomson ("Journal of the Franklin Institute," 200, iii, 313) describes the mechanical, thermal, and optical properties of fused silica, many of which are not generally known. Clear masses are obtained by careful selection of material, such as rock crystal and fusion in an electric vacuum furnace. By subjecting the fused mass to a high pressure, such bubbles as may be retained are collapsed. Fused silica does not become limpid, but sublimes as the temperature is raised; but such heating materially assists in clearing out volatile vapours or gases. Translucent fused silica, full of small bubbles, is made by melting fairly pure siliceous sand. Silica glass is harder and more perfectly elastic than ordinary glass, its most remarkable property being its almost negligible expansion on heating. A roll of material heated to a white heat is not fractured on plunging into cold water. Silica vessels suddenly heated do not crack, the expansion being well within the limit of elasticity. The expansion of fused silica is less than one part in 2,000,000 per degree Centigrade. Standards of length are thus practically invariable, and thermometers made from fused silica tubing show no drift of scale on heating and cooling over a wide range. Clear silica glass will probably rank as the most transparent solid known, and it permits the passage of ultra-violet rays when the thickness is small, a property utilised in ultra-violet radiation therapy when mercury vapour lamps are employed. It has been proposed to glaze solaria (for sunshine treatment of rickets) with thin windows of fused silica. Fused silica undergoes devitrification at temperatures around $1,200^\circ$; it is accordingly not adapted for furnace linings or crucibles, as it loses all its remarkable resistant properties when devitrified, because it is no longer fused silica.

The Manufacture of Pectin is the subject of an instructive article by C. P. Wilson in "Industrial and Engineering Chemistry" for October (1065). The material used is lemon pulp refuse (from citric acid manufacture) containing 2.5-4.0 per cent. of pectin. This is cut or ground and heated to 95° - 98° to destroy pectinase, which otherwise converts pectin into useless pectic acid. The ground, washed pulp and peel is suspended in 1 per cent. sulphurous acid solution contained in wood tanks with false bottoms, and the mixture is brought to 90° as rapidly as possible. After two hours at this temperature the liquor is drawn off through the false bottom, the pulp acting as a filter mat. A second and third extraction are made in the same manner. The combined extracts, which are filtered through paper if necessary, contain about 0.5 per cent. of pectin. This solution is rapidly cooled and the excess of sulphur dioxide removed by passing over wooden baffle plates in a water-cooling tower. The pectin is precipitated by aluminium hydroxide formed by interaction of ammonia and aluminium sulphate. The ammonia is added practically instantaneously while the pectin solution is in violent agitation, and this is followed by the aluminium sulphate (in 25 per cent. solution), also as rapidly as possible. Best results are obtained when the quantities of reagents are such that the solution in which the precipitate is suspended has a minimum viscosity, this being usually at PH 4.0-4.2, using bromophenol blue as indicator. The precipitation tank is provided with an agitator and wooden baffles arranged to whip air into the precipitate so that it rises as a spongy mass. After washing, centrifuging and pressing, the pectin is air-dried at 65° to a dark-green horny mass, containing 10-12 per cent. of ash, mostly aluminium hydroxide. The latter impurity is converted into aluminium chloride by suspending the ground dry pectin in 85 per cent. alcohol containing 10 per cent. by volume of hydrochloric acid. An excess of acid must be used, this and aluminium chloride being removed by washing with neutral alcohol. The washed pectin is dried in a vacuum oven with alcohol recovery. The final product is a greyish powder which will carry 40 to 220 times its own weight of sugar and is neutral in colour and flavour in a jelly.

The Progress of Pharmacy and Allied Sciences

PURE CHEMISTRY AND PHYSICS

Rottlerin.—S. Dutt, in Part I of an investigation into the constitution of Indian kamala ("Journal of the Chemical Society," Vol. 27, September, 2044) gives details of researches with a view of elucidating further the constitution of rottlerin. That obtained by this author melts at 206° to 207° (15° higher than recorded by A. G. Perkin), and gives a hepta-acetyl derivative melting at 165° (compared with m.p. of 130° to 135° C. of the hexa-acetyl derivative isolated by Perkin). The author concludes that rottlerin contains four benzene nuclei, of which (1) two must be phloroglucinol residues, (2) one must be in a residue $C_6H_5:CH:CH.C$, and (3) one must be a benzene nucleus containing at least three side-chains.

Dwi-Manganese, the unknown element of atomic number 75, is claimed to have been found by V. Dolejšek and J. Heyrovsky, Prague ("Nature," November 28, 1923), during investigations upon the electrolytic depositions from manganese solutions. The element is present as an impurity (1:20,000) in the "purest" manganese salts. They support their contentions by (provisional) spectroscopic results. The concentrated acidic chloride solution of dwi-manganese is green (though nickel has been carefully removed), and its chemical behaviour coincides with that mentioned by Dr. G. Druce earlier this year ("Chemical News," 131, 273). The customary controversy regarding priority and validity of discovery of this new element has already begun.

Size of Atoms.—Professor W. L. Bragg, in a communication to the Manchester Literary and Philosophical Society, on October 13, stated that atoms should not be regarded as incompressible bodies occupying a definite volume. The repulsion which sets in when the distance between two atomic centres decreases sets in so rapidly that it enables us to make pictures of how they pack together by supposing atoms to be nearly constant in size, and only slightly compressible. Whilst these explain the form of many compounds, they often break entirely. Frequently the scale and shape of an inorganic crystal is determined by oxygen atoms (2.7 Angstrom units apart), the other atoms, which are in general smaller, packing in the chinks between to cement the whole together. Models were shown to illustrate the importance of oxygen in determining crystal structure.

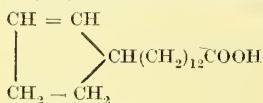
A New Type of Thermometer working up to 1,000° C. is described by S. Boyer in "Industrial and Engineering Chemistry" for December (p. 1252). It consists of gallium sealed in a quartz tube under 2 to 3 microns pressure. The chief difficulty encountered was in preventing oxidation of the electrolytically deposited metal. This was accomplished by covering the surface with gallium chloride and hydrochloric acid (which were subsequently volatilised *in vacuo*). To remove electrolytic gas (hydrogen) the metal was heated repeatedly under vacuum to 1,100° in a quartz container and cooled, the operations being concluded when gas bubbles no longer appeared between the metal and the walls of the container. The gallium in the sealed-off tube often attained -15° to -20° before it solidified (instead of melting point 29.7°). As the boiling point of gallium is about 1,700°, the tube provided graduations in a new range (from 700° to 1,000°). Graduation was effected by etching with hot dilute hydrofluoric acid, using polymerised China wood oil as a protective. As regards markings, a mixture of sand and copper oxide was found, which gave a sharp greyish-black mark, resistant to heat at 1,000° and to most chemical reagents. The calibration points on the thermometer scale were fixed by comparison with a thermocouple and with well-known standards.

Recent Advances in Wireless Propagation.—A. S. Eve ("Journal of the Franklin Institute," Vol. 200, No. 3, p. 327) states that the day of the short wavelength has arrived in wireless. The use of a parabolic reflector of vertical wires in line with the transmitting aerial in the line of focus has resulted in cutting the power down from 10,000 units with an ordinary aerial to 25 units

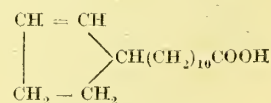
with a two-wave aperture reflector, and 1.56 units with an eight-wave aperture. Cornwall to Buenos Ayres (5,280 nautical miles) has been reached with reliable signals (in daytime) with a wavelength of 92 metres. Another method is to use a vertical network 3,000 feet long and 300 feet high, L-shaped conductors on this net being insulated and tuned to the desired short wavelength. Another plane network is placed behind at a distance of a quarter of a wavelength for purposes of reflection. This enables as good results to be obtained with 25 kilowatts on the network as are obtained with 250 kilowatts on an aerial between towers 820 feet high, and the engineering problem is much simpler. Whereas waves of 100 metres give bad results during daylight, those of 30 metres are good by day and bad at night. An intermediate wavelength of 45 metres is equally good by night and day, and is being used for long-distance signalling. Waves as short as 4 metres have been tried. Amateurs have bridged the Atlantic, using 2 watts, transmitting in all directions.

Pungency and Chemical Constitution in Acid Amides.—E. C. S. Jones and F. L. Pyman ("Journal of the Chemical Society," 127, November, 2588) have prepared and examined the pungency of various vanillylamides, compared with *n*-nonovanillylamide which has the same pungency (100) as capsaicin (a decenovanillylamide). The results are as follows: (1) *α*-isopropyl-*n* hexovanillylamide (with chainmonoic acid) has pungency only 5; (2) of a series of *ω*-phenyl saturated fatty acids, benzo-vanillylamide is faintly pungent, phenylacetovanillylamide is non-pungent, *β*-phenylpropiovanillylamide has pungency 40, and the corresponding *γ*-phenyl-*n*-butyr- and *δ*-phenyl-*n*-valerovanillylamides are slightly more pungent; (3) halogeno-acetic vanillylamides possessed only slight pungency. Thus it would appear that the shape rather than the weight of the side-chain is the important factor as regards pungency. Difficulty was met with in comparing tastes, as some of the compounds are purely pungents, but others are a blend of flavour and pungency. The type pungency itself varies. At a dilution of 1 in 500,000 *n*-nonovanillylamide causes an immediate crisp sting, free from flavour, which lasts two minutes; *Δ*-*ω*-undecenovanillylamide produces a dull numbing burn, with an inky flavour, which takes two or three seconds to develop, and persists for eight minutes; whilst capsaicin rapidly produces a vigorous burn, lasting six minutes. At 1 in 5,000,000 dilution the last two still taste faintly, while *n*-nonovanillylamide is barely perceptible.

Chaulmoogric and Hydnocarpic Acids.—R. L. Skirner and R. Adams ("Journal of the American Chemical Society," Vol. 27, 11, 2727) conclude that the above two acids are adequately represented by the simple formulas below (and are not tautomeric mixtures as suggested by Dr. F. B. Power in 1904):—



Chaulmoogric acid.



Hydnocarpic acid.

Super-Gamma Rays.—Dr. R. A. Millikan, in an address before the U.S. National Academy of Sciences, reported in "Nature" for December 5 (p. 823), described experiments proving the existence of highly penetrating rays, presumably of cosmic origin. Experiments with electrosopes sunk in deep snow-fed lakes (free from radioactive contamination of the water) showed unambiguously the existence of rays of such extraordinary penetrating power that the electroscope readings kept decreasing in Muir Lake (altitude 11,800 feet) down to a depth of 45 feet. The atmosphere above this lake is equivalent to another 23 feet of water. Thus the rays coming from the outer space are more penetrating than any hitherto known, passing through 68 feet of water (equal to 6 feet of lead) before being completely absorbed. They are at least a hundred times more penetrating than the hardest x-rays (which are stopped

The Progress of Pharmacy and Allied Sciences

by half an inch of lead). The most penetrating rays known previously are the gamma rays produced by atomic disintegration of radium and thorium. The conclusion can scarcely be avoided, states Dr. Millikan, that nuclear changes having an energy-value fifty times that of radioactive processes are taking place throughout space, and that high-frequency rays signalise these changes. The energy of the nuclear change corresponds to the formation of helium from hydrogen. The frequencies of the most penetrating rays observed in summer correspond closely to the frequency calculated for this transformation. The computed frequencies also agree closely with the energy involved in the simple capture of an electron by a positive nucleus. It is probable that this phenomenon is actually going on in space, and it is suggested that this is the most probable source of the rays which reach the earth with equal intensity in all directions at all hours of the day or night. The wave-length of the shortest rays investigated is 0.0004 Ångströms, one fiftieth of that of the hardest gamma-rays and one ten-millionth that of ordinary light. The rays, upon striking matter, produce softer rays of about the frequency predicted by the Compton effect. Dr. J. H. Jeans, in discussing this penetrating radiation in a letter to "Nature" of December 12, points out that if stellar radiation originates in the annihilation of matter, each quantum of wave-length 1.3×10^{-13} being produced by the destruction of one electron and one proton, the absorption of such a quantum would eject an electron with a velocity equal to 0.99999985 of that of light. He concludes that only one part in 3,000 of the total radiation of the great nebula Andromeda is stopped by matter and transformed by successive scatterings into visible light, while the remaining 2,999 parts traverse space as high-frequency radiation. To produce an average of 10 ions per cubic centimetre through 10 kilometres of atmosphere requires 2×10^{-1} ergs per second through each square centimetre of the outer boundary of the earth's atmosphere. The high-frequency radiation from the Andromeda nebula alone would contain sufficient energy to produce about one-half of the observed ionisation. No doubt the radiation which strikes the earth is not all expended in ionising molecules; but when the radiation from all the nebulae is added up, it seems likely that the total effect is about the observed amount. This radiation hypothesis is considered to have advantages over that of helium formation by Millikan, which would seem to require an incredible amount of hydrogen or other matter scattered through space. Dr. Jeans points out that hitherto it has been thought that interstellar space is only traversed by visible light, but now one must think also of super- γ -rays and super- β -rays crossing space.

DENTISTRY

Soap in Dentifrices.—H. Brody ("Dental Cosmos," October 1925) is doubtful whether antiseptic, strongly alkaline or acid dentifrices have noticeably reduced the incidence of dental caries. The daily cleansing of the teeth by means of the tooth-brush, dental floss and a mild neutral or slightly alkaline dentifrice is one of the most important procedures in prophylaxis, but the sole purpose of the last-mentioned is to assist in the mechanical cleansing. All dentifrices should contain soap, and the author considers that a good oral preparation should have about 10 per cent. and not over 15 per cent. of this ingredient. Soap used alone is not effective as a dentifrice, as it requires some slight abrasive, and for this purpose precipitated chalk, which has a relative hardness of 3 to 3.5 compared with enamel of 4.0 to 5.0, is recommended. The use of calcium phosphate as an abrasive, even if the action is rendered less severe by the addition of calcium sulphate, is not advisable, as it approaches the hardness of the enamel.

ESSENTIAL OILS

New Constituent of Lemon Oil.—Romeo ("Annali di Chimica Applicata," 1925, 15, 305) has isolated from essential oil of lemon a crystalline compound which he

believes to be a hitherto unrecognised constituent. If the oil be freed from most of its terpenes by distillation *in vacuo*, and the residue steam distilled, a crystalline deposit having the formula $C_{10}H_{16}O_2 \cdot 3H_2O$ is formed. This melts at 58° , or when anhydrous at $69-71^\circ$; boils at 260° , and has a specific rotation $+39.26^\circ$. It gives a bright red colour with sulphuric acid. When heated with dilute hydrochloric acid it is converted into a liquid isomeride.

Formic Acid on Sesquiterpenes.—Robertson, Kerr and Henderson ("Journal of the Chemical Society," 1925, 127, 1944) have examined the action of formic acid on a number of the sesquiterpenes. β -caryophyllene, when heated with formic acid, yields the formic ester of caryophyllene alcohol, a liquid boiling at $141-145^\circ$ at 10 mm., and having a specific gravity 1.22 at 17° , refractive index 1.4967, and specific rotation -10.46° . Hydrocarbons, including clovene, are formed at the same time, showing that ring closure has been effected by the formic acid. Cadiuene is partly converted into an unsaturated hydrocarbon $C_{15}H_{24}$, boiling at $118-124^\circ$ at 9 mm., and having a specific gravity 0.9086 at 17° , and refractive index 1.5010 at 14° . Cedrene is transformed into an isomeric unsaturated hydrocarbon boiling at $114-118^\circ$ at 9 mm., and having a specific gravity 0.9333 at 20° and refractive index 1.4988 at 21° .

Rhodesian Eucalyptus Oils.—P. G. Carter and J. Read ("Transactions, Journal of the Society of Chemical Industry," XLIV, 47, 526 r) give the results of the examination of oils from three species of Australian eucalypts grown in Northern Rhodesia. The comparative yields and physical constants are as follows:—

<i>Eucalyptus macarthurii</i> —		Yield	n_D^{15}	n_D^{15}	d_4^{15}
N. Rhodesia ..	0.32%	1.4821	+4.10°	0.9329	
Australia..	0.21%	1.4706 to 1.4718	+1.2° to +3.6°	0.9214 to 0.9245	
<i>Eucalyptus citriodora</i> —					
N. Rhodesia ..	1.6%	1.4595	+3.50°	0.8787	
Australia..	0.8%	1.4515 to 1.4596	+1.2° to +1.7°	0.8657 to 0.8697	
<i>Eucalyptus globulus</i> —					
N. Rhodesia ..	1.25%	1.4695	+3.56°	0.9389	
Australia..	0.92%	1.4663	+8.4°	0.913	

A review of the results shows that though there are appreciable differences in physical constants, the Australian and Rhodesian oils contain sensibly identical amounts of the main components of the oils. The ester content of Rhodesian oil from *E. macarthurii* is, however, distinctly low. The most striking divergence is the comparatively higher yields; but the Rhodesian oils were from two- or three-year-old seedlings, and it is hoped to extend the data later to oils from more mature trees.

Deterioration of Essential Oils.—R. A. Konnerth ("Journal of the American Pharmaceutical Association," October, 1925, 883) has subjected to different conditions of storage six sets of two containers each of the following essential oils: anise, lemon, terpeneless lemon, orange, peppermint, and eugenol. Each set represented partially filled (1) colourless bottles, (2) amber bottles, and (3) tin cans filled (a) under air and (b) a duplicate with air replaced by nitrogen. Observations were made at room and ice-box temperatures for a period of fourteen months. The results show that oxidation is the most active factor in deterioration, and also that glass containers are preferable to tin, the latter materially affecting the odour and colour of the essential oils. In general, the oils show least deterioration when stored in bottles under nitrogen. Anise oil undergoes rapid deterioration in tins, but lemon oil keeps fairly well in containers of this metal. Terpeneless lemon oil retains its fragrance, but darkens in colour to deep yellow, though stored in amber bottles under nitrogen. Oxidation and exposure to diffused daylight create a disagreeable odour and dark orange-yellow colours. Oil of orange keeps better at room temperature than in a refrigerator. In general, the ice-box seems of little value except in the case of eugenol, which is prone to oxidation.

The Progress of Pharmacy and Allied Sciences

Oil of Ngaio.—*Myoporum laetum* is a native tree known by the Maoris by the name *Ngaio*, (pronounced "Nyo"). The essential oil distilled from the leaves and terminal branchlets has been examined by F. H. McDowall ("Journal of the Chemical Society," 1925, 2200). The yields ranged from 0.12 per cent. to 0.3 per cent., according to season and condition of the leaves. When cooled to -20° a small amount of a crystalline substance separated, which melted at $62-63^{\circ}$. Combustion figures and cryoscopic determinations agreed with the formulas $C_{23}H_{36}$ or $C_{24}H_{38}$. It appears to be a paraffin hydrocarbon similar to the stearoptene present in otto of rose. The clear oil, after removing the stearoptene by freezing, was of a reddish-brown colour with a sweet malt-like odour, of specific gravity 1.0203 at 20° , optical rotation -26.54° , refractive index 1.4823 at 20° , and saponification value 17.9. By a series of fractional distillations, a yield of about 86 per cent. was obtained of a substance boiling at $182-183^{\circ}$ at 27 mm., which was found to be a ketone, probably of the formula $C_{15}H_{22}O_3$. This has been named *Ngaione* (*Nyone*). It yields a *para*-nitrophenylhydrazone melting at 103° . When reduced with sodium and absolute alcohol, *ngaione* forms an alcohol, *ngaio* (*nyol*). It is a lemon-yellow oil with a faint sweet odour, boiling at $191-192^{\circ}$ at 29 mm.; specific gravity 1.0163 at 20° , specific rotation -25° , and refractive index 1.4784 at 20° . It forms an acetate, but no crystalline derivatives could be obtained. The investigation is proceeding.

Oil of Boronia Citriodora.—A. R. Penfold ("Journal and Proceedings of the Royal Society," N.S.W., LIX, 35) has found that the essential oil of the leaves of this plant contains as much as 80 per cent. of citronellol, a far higher percentage than has hitherto been found in any other essential oil. According to Newman, the plant belongs to the snow regions, where it thrives. Any quantity of the material can be obtained if the right time of the year be selected. The proper time for gathering is from about Christmas up to the Easter holidays. The plant is known locally as the lemon-scented boronia. The leaves have a slight lemon odour at first on crushing, but the main odour is that of rose. Two specimens of the oil were prepared, which had the following characters:—

	1	2
Yield ...	0.93 per cent.	0.71 per cent.
Specific gravity at 15° ...	0.8814	0.8822
Rotation ...	$+5.8^{\circ}$	$+2.8^{\circ}$
Refractive index at 20° ...	1.4611	1.4608
Ester number ...	42.1	69.88
Acid number ...	4	5
Ester number (after acetylation) ...	239.5	241.2
Citronellol ...	80.4 per cent.	82.3 per cent.

Both oils were soluble in an equal volume of 70 per cent. alcohol. The oil was found to contain about 1 per cent. of free acids and phenols, the former consisting principally of capric acid, and the latter probably being a mixture of eugenol and leptospermol. The phenolic mixture gave a dirty brown coloration with ferric chloride. The esters present were those of citronellol with acetic and valeric acid. The citronellol was obtained in the form of a colourless oil of fine rose odour.

The Occurrence of Sylvestrene.—Rao and Simonsen ("Journal of the Chemical Society," 1925, 127, 2494) have examined the question of the occurrence of sylvestrene in Nature. They point out that to students of terpene chemistry its occurrence has always seemed to be anomalous, as it is the only naturally occurring terpene derived from *m*-cymene, all the others being *p*-cymene derivatives. It appeared possible that it did not really occur as such, but arose during the process of isolation and purification. After outlining the history of this terpene, they point out that one of its most characteristic properties is that of yielding a deep blue colour in acetic anhydride solution when treated with a drop of sulphuric acid. The evidence from previous investigators' reports seemed to be against the existence of sylvestrene in *P. sylvestris*, *pumilio*, and *abies*, and it is possible that the transient violet colour

obtained was in reality due to the terpene carene. The authors have therefore made a critical examination of the oils of *Pinus sylvestris* and *Pinus pumilio*, both of authentic origin. The oil of *Pinus sylvestris* was of pale yellow colour and had a specific gravity 0.8661 at 30° , refractive index 1.4729 at 30° , specific rotation $+13.2^{\circ}$, acid value 28, saponification value 5.7, and saponification value after acetylation 15. A quantity of the oil was subjected to a systematic fractionation. The final fractions obtained were as follows:—

No.	B. pt. at 684 mm.	Sp. gr. at 30°	Sp. rotn.	R.I. at 30°	%
1	153-157°	0.8553	$+20^{\circ}$	1.4637	17.4
2	157-161°	0.8553	$+16.7^{\circ}$	1.4656	18.7
3	161-167°	0.8556	$+11.7^{\circ}$	1.4676	30
4	167-176°	0.8573	$+8^{\circ}$	1.4711	3.1

Fraction 1 was almost pure pinene. Fraction 2 consisted of a mixture of pinene and carene. On treatment with hydrogen chloride *d*-sylvestrene dihydrochloride resulted. Fraction 3 consisted essentially of carene, which yielded sylvestrene dihydrochloride when treated with hydrogen chloride. Fraction 4 was almost pure *d*-carene. The oil of *Pinus pumilio* was treated in a similar manner with similar results. Neither oil, therefore, appears to contain sylvestrene, but to yield it by the conversion of carene into sylvestrene by intramolecular change.

Oil of Tagetes Glandulifera.—T. G. H. Jones and F. B. Smith have investigated the essential oil of the flowers of *Tagetes glandulifera* ("Journal of the Chemical Society," 1925, 127, 2530). The plant is an annual native to South America, and is a very conspicuous floral feature of the coastal regions of Queensland, the odour at flowering time being somewhat unpleasant. The flowers are borne in dense terminal panicles. The essential oil is a bright yellow, somewhat mobile liquid, having the powerful odour of the crushed flowers, which suggests the presence of olefinic terpenes in addition to the principal constituent. The amount of essential oil obtained from approximately 1.5 tons of flowering plants was 3.5 kilo. On the flowers alone, a yield of about 1 per cent. was obtained in a small distillation. The recovery of essential oil from the plants before flowering was extremely small, and the differences in constants of the oils distilled from whole plants and from the flowers only would indicate that at flowering the proportion of terpene constituents is considerably increased by the leaves, whilst the seat of the ketones is mainly, if not entirely, the leaves. The oils had the following characters:—

	Whole plants	Flowers
Specific gravity	0.8638	0.8743
Refractive index	1.4820	1.4870
Specific rotation	$+4^{\circ}$	$+2.5^{\circ}$
Acid value	2	—
Acetyl value	33	—

A quantity of 3,800 c.c. was fractionated at 3-4 mm., a trap cooled by liquid ammonia being interposed between the pump and the receivers, and the fractions were collected. Repeated refractionations separated these into three main fractions, of which the first was mainly terpenes. *D*-limonene and ocimene were identified as the main terpene constituents. Two ketones were identified, of which one was a dimethyl-octenone of the formula $C_{10}H_{18}O$. This is a liquid of specific gravity 0.8354, specific rotation $+1.5^{\circ}$, refractive index 1.4295, and boiling point $185-186^{\circ}$ at normal pressure. The principal ketone has been named tagetone. It is a methyl-methylene-octenone, a pale yellow odorous liquid of specific gravity 0.8803, refractive index 1.4895, and boiling point $205-210^{\circ}$. It has the formula $C_{10}H_{16}O$.

FIXED OILS AND FATS

Dog Fish Oil.—Large numbers of dog fish are found in the waters along the Chilean coast, which do considerable damage to the fishing industry on account of their voracity. Chilean fishermen extract the oil from the livers by exposing them to the sun in barrels for five or six days, when the oil rises to the surface; each fish yields on an average 250 grams of oil. It has

The Progress of Pharmacy and Allied Sciences

occasionally been used in Chilean hospitals as a substitute for cod-liver oil, and recent tests by A. Cañon ("Revista Chilena de Farmacia y Quimica," No. 4, 1925) show that the chemical and physical characters of dog fish and cod-liver oil exhibit many points of similarity. Dog-fish oil is dark yellow in colour, with an odour resembling that of cod-liver oil. Specific gravity, 0.933; free acids, 5.132 per cent.; iodine number, 94.616; total nitrogen, 0.272 per cent.

MATERIA MEDICA

Chilean Digitalis.—Originally cultivated, *Digitalis purpurea* is now very common in the Southern provinces of Chile. The fact that it is found in profusion from south of Concepcion to the mouth of the Aysen, and that several successful results have been reported following the use of the indigenous plant, induced J. Ibañez Gomez ("Revista Chilena de Farmacia y Quimica," No. 3, 1925) to investigate its therapeutic properties. Samples of plants collected in the vicinity of Temuco and carefully dried were found to have a content of 0.198 to 0.225 per cent. of digitalin, when assayed according to Keller's method. In view of the alterations to which this drug is liable on the long voyage from Europe, the author urges that thorough clinical and physiological tests should be made of Chilean digitalis, to establish whether its properties and action correspond with those of the imported drug, and would therefore justify its therapeutic use.

Rhamnicoside.—M. Bridel and C. Charaux ("Journal de Pharmacie et de Chimie," November 16, 1925) have continued their investigations on rhamnicoside, $C_{26}H_{36}O_{13}$, H_2O , a glucoside which on hydrolysis yields glucose, xylose, and rhamnicogenol, a crystalline body insoluble in water. An examination of twelve species of *Rhamnus* revealed the presence of this glucoside in six, viz.: *Rhamnus cathartica*, *R. infectoria*, *R. utilis*, *R. saxatilis*, *R. oleoides*, and *R. italicus*, while it is absent in: *Rhamnus frangula*, *R. alaternus*, *R. alpina*, *R. japonica*, *R. Billardii*, and *R. imeretina*. It is interesting to note that the six species containing rhamnicoside are characterised by possessing thorns and the fact that the epidermis of the bark can be readily removed in large portions, features which are absent in the other six species. The authors succeeded in obtaining rhamnicogenol in a pure form by the fermentative action of *Cornus sanguinea* on rhamnicoside; it occurs as a light yellow crystalline powder, insoluble in water. Its solutions in methyl alcohol, ethyl alcohol, and acetone exhibit a beautiful green fluorescence, and are rapidly decomposed with precipitation of a black substance. Rhamnicogenol corresponds to the constitution $C_{11}H_{12}O_6$, and is presumably a pentahydroxymethylanthranol.

Rays from Cod-Liver Oil.—H. Haxthausen ("Hospitals-tidende," June 25, 1925) states that after immersion for four to six hours in cod-liver oil, in a Petri dish, a photographic plate exhibited distinct signs of photographic action. The openings cut in an interposed black paper, and the differences in the action according to the depth of the cod-liver oil apparently confirm the reality of the photographing faculty. On the other hand, the action was entirely arrested by a sheet of glass or of quartz, and the electroscope findings were negative. The action may be of the same nature as the "Russel effect" on the photographic plate, or of the "Moser ray," which is due to diffusion of some chemical substance with possibly some supplementary photographing energy. There seems to be a certain parallelism between the photographic efficiency of the cod-liver oil and its curative action in rickets. Linseed oil possesses this faculty to a slight degree, but not butter, milk, eggs, olive oil, etc. Vegetable oils acquired it, however, after exposure for an hour to ultraviolet rays. Linseed oil was pre-eminent in this respect. Mineral oils did not acquire the faculty under any conditions. The fats in the skin have a similar action on the sensitive plate after ether extraction and irradiation. The action of light on rickets may be due to the effect on the fats in the skin. The research reported confirms, the author states, Kugelmass and

McQuarrie's conclusions as to the connection between the antirachitic and the photographic action.

Active Principle of Buckthorn.—R. Maeder, in his thesis (Inaugural-Dissertation, Basle, 1925), gives the results of an exhaustive investigation of the constituents of the bark of *Rhamnus frangula*, undertaken with a view to establishing the agent chiefly responsible for its laxative action. The bark was successively extracted with mixtures of ether and methyl alcohol, then with methyl alcohol, and finally with alcohol (45 per cent.), and each of the seven extracts was separately examined. The first extract, obtained by exhausting the drug with ether containing 5 per cent. of methyl alcohol, was found to be devoid of any physiological action; it contained the following bodies: Rhamnocerin, melting point 73° ; phytosterin-rhamnol, melting point $133-134^\circ$; arachinic acid, and very small amounts of chrysophanic acid. Extract II (ether with 10 per cent. of methyl alcohol) was also inactive, and owing to the slight yield was not further examined. From extract III (ether with 20 per cent. of methyl alcohol) a portion soluble in methyl alcohol was isolated, which was found to possess a powerful physiological action and probably consisted of the active principles found in the subsequent extracts. In addition, tannins were found to be present in this extract. The next four extracts were treated with lead acetate and yielded an amorphous, orange-yellow powder, which on analysis was found to possess the composition $C_{27}H_{36}O_{11}$, H_2O . Maeder proposes the name of "glucofrangulin" for this emodin glucoside, which is present to the extent of 6 to 7 per cent. in the bark of *Rhamnus frangula* and constitutes its chief active principle. In man, a dose of 0.05 gram displays a definite laxative effect. Frangulin, the only glucoside isolated from buckthorn bark prior to Maeder's discovery of glucofrangulin, is present in such small amounts that its action must be regarded as negligible, all the more so since it does not exhibit any marked cathartic effect. Emodin is not present in the fresh bark, and the author assumes that its occurrence on storage is the result of the degradation of glucofrangulin, yielding in the first stage frangulin and glucose, followed by the scission of frangulin into emodin and rhamnose.

MEDICINE

Sodium Thiosulphate in Mercurial Stomatitis.—G. A. M. Hall ("China Medical Journal," September 1925) reports striking results from the use of sodium thiosulphate in four cases of severe mercurial stomatitis, and one case of tissue reaction due to the leaking of neo-arsphenamin from a vein. In two cases 0.45 gram of chemically pure sodium thiosulphate, in 10 cc. of water, was injected as the first dose, and no untoward effect was noted. A third patient, who was suffering considerably from syphilitic bone pain, and in whom it was desired to clear the condition rapidly in order that arsphenamin treatment might be started, was given one dose only of 0.6 gram. This was followed in about half an hour by a slight rigor, without, however, any further ill-effects. The next day the mouth was so much improved that food could be taken with relish. Local treatment in all cases consisted of frequent washing out of the mouth with Dobell's solution.

Treatment of Black Tongue.—H. Prinz ("British Dental Journal," November 2, 1925) states that when a patient with a black stain upon the tongue appeals for treatment an effort should be made to ascertain whether the discoloration is an authentic case or merely an accidental pigmentation. In mild cases of the genuine type the thorough swabbing of the discoloured patch with pure hydrogen peroxide (3 per cent.), followed by a warm physiological saline solution, will promptly relieve the condition after several treatments. In the more severe cases a 10 per cent. solution of salicylic acid in a mixture of equal parts of alcohol and glycerin and applied on a swab once or twice a day acts as an effective keratolytic agent which will dissolve the corneous papillae. It should be followed by the H_2O_2 application and salt water, as

The Progress of Pharmacy and Allied Sciences

stated above. An effort should be made to relieve existing inflammations of the gums and the tongue, and oxidising mouth washes, unless followed by warm water, and those containing tannic acid should be avoided. The removal of the fur by scraping or shaving has occasionally been employed, in which case recurrence of the condition may be anticipated. In general the use of caustics for this purpose should be emphatically discouraged.

Tannic Acid in Burns.—E. C. Davidson ("Surgery, Gynecology and Obstetrics," August 1925) recommends the use of tannic acid in the treatment of burns. The burned area is covered with dry sterile gauze pads soaked with a 2.5 per cent. aqueous solution of tannic acid. It is essential that the tannic acid solution be made up fresh just before use, because it deteriorates on standing with the formation of the far less astringent gallic acid. In order to prevent the caustic effect which follows the application of concentrated tannic acid, small sections of the dressing were opened for inspection at the end of twelve hours, eighteen hours and twenty-four hours. As soon as the part is found to have assumed a light brown colour all dressings are removed. In order to facilitate removal of the dressing without pain to the patient and without causing further trauma, it has been found desirable to wet the gauze with fresh tannic acid solution shortly before this is done. The wound is thereafter left exposed to the air but is carefully protected from mechanical injury, chilling and bacterial invasion by a suitable cradle draped with sterile linen. In a few cases 5 per cent. tannic acid ointment (made with equal parts of solid paraffin and lanolin as a base) was substituted for the aqueous solution. Although it appeared to have a definitely beneficial effect, it is far less efficacious than the former. The chief value of the ointment is in its use about the eyes, where the astringent solution cannot be used with entire safety.

Margosates in Cancer Therapy.—K. K. Chatterji ("Lancet," II, 1925, p. 1063), in giving a note on margosa oil in the treatment of cancer, states that in using sodium and potassium margosate therapeutically, it was observed that effects were marked in the granulomatous stages of syphilis (late secondary and tertiary stages), in tuberculous glands and ulcers, in leprosy, and in some varieties of diseases of the skin. As the effect of margosate treatment was rather striking in clearing up the granulomatous conditions, its use was extended to tropical granulomata. At first he used two of the more soluble salts of margosic acid, sodium and potassium margosates; 2 to 3 gr. (4 per cent. solution) were given. Intramuscular injections caused some local irritation, and intravenous injections caused obstruction in the veins after a few doses. Ethyl margosic ester is a clear reddish fluid with a fruity aromatic odour and a high boiling-point. It is insoluble in water, but soluble in ether, alcohol, and chloroform. He gave up sodium and potassium margosate and brought ethyl margosic ester into use, as it was found superior even to the potassium salt. Ethyl ester does not cause local irritation or irritation to the veins and has no hæmolytic properties. Its margosic content is higher than that of the salts, and much more so per volume compared to the 4 per cent. solution of the salts that could be used. Being in loose chemical combination it is hydrolysed more readily. Its antiparasitic and bactericidal properties are definitely higher. It seems to influence fat metabolism remarkably.

Methylated Spirit Dermatitis.—P. B. Mumford ("British Medical Journal," II, 1925, 607) gives a report on two forms of dermatitis due to the use of methylated spirit externally. He states that the increasing restrictions on the use of alcohol have led to the occurrence of various irritations of the skin in persons compelled to use commercial alcohol. Among those hitherto unaffected are surgeons, who use spirit for the purpose of disinfection, and also hairdressers employing spirit lotions and spirit soaps. During the last twelve

months an outbreak of severe dermatitis occurred among the surgeons at the Manchester Royal Infirmary, and more recently a closely comparable eczema has been produced among the employees of a firm of barbers in the same town. The dermatitis occurring in the hospital was produced on the hands and arms of five members of the surgical staff and several theatre nurses. The condition was proved to be due to the alcohol by a process of exclusion of all other factors—the soaps, the disinfectants, and the process of laundering being changed without effect. When the use of spirit ceased, the dermatitis ceased also. The outbreak among the barbers was more extensive and severe. Ten definite cases were found within a few months, and in all these the men had been in the same occupation for many years. Several of the other employees complained of itching, burning, and tingling of the hands after using certain of the preparations. It appears that the use of pyridine is very common in Continental spirit, and it is likely that the cause of the trouble lay in the use of spirit containing this denaturant by the manufacturers. Evaporation of the particular "friction" referred to above left a residue which was largely composed of pyridine and gave rise to irritation of the skin when rubbed in. It is realised also that when the friction is applied to the scalp the evaporation of the alcohol will result in a further concentration of the irritant material.

Treatment of Rheumatoid Arthritis.—S. Watson Smith ("British Medical Journal," II, 1925, p. 643) reports that the result of the intramuscular injection of guaiacol, iodine, and camphor dissolved in oil has been satisfactory in nine cases of rheumatoid arthritis and articular fibrositis, other than the post-infective, gouty, and gonorrhoeal forms. The cases represented each phase of the disease from the early and the subacute to the rigid and deformed chronic case. Of the nine cases mentioned, four had had carefully prepared auto-vaccine administered during many months, with little apparent benefit. All had had the various other methods of treatment usually employed. The author does not suggest that the oil will displace vaccine or other treatment, but rather that it should be employed along with those other general and local means commonly used. It is likely to be most useful if backed by the other means at command—such as full diet, carefully chosen so as to fortify and, at the same time, to obviate any putrefactive or fermentative process in the intestine; generous allowance of fluids given night and morning and between meals, with, at all times, alkali added; saline laxatives; colon lavage, which can be quite well carried out in the patient's own home; and kaolin, with an intestinal antiseptic by the mouth, especially if there is diarrhoea. For the articular lesions, gentle massage and passive movement, resistance exercise, and ionisation, may each be used to get the best out of the oil. Previously an iodised oil was used, but the result was not good, then a guaiacol-iodine oil which was prepared proved to be much too painful and irritating in use. The author now uses exclusively an oil obtained from Duncan, Flockhart & Co. which contains the three drugs; it is non-irritating, is exact as regards strength, and it answers all requirements. It is made up in ampoules, each containing 10 per cent. guaiacol, 10 per cent. iodine, and 5 per cent. camphor added for its analgesic and stimulating effects. The highest dose given at any one time was 1 c.c.; 0.25 c.c. was injected to begin with, and the scale quickly mounted till 1 c.c. was reached; this quantity was then gone on with, being repeated every third day, or, when necessary, every second day.

OPTICS

Conjunctivitis.—The association of septic teeth with conjunctivitis might appear to be a usual feature, for both conditions are due to germs, states a contributor to "The Refractionist," October 1, 1925. But micro-organisms have preferences, and those germs which like to attack teeth do not care to reside in the conjunctiva. And for this reason septic teeth and conjunctivitis are rarely connected. It is singular that the conjunctiva,

The Progress of Pharmacy and Allied Sciences

unlike the deeper parts of the eye, is not often attacked through the blood stream. The sclera, iris, ciliary body and other deeper structures, being unexposed to the air, are not liable to contagion, but they are sensitive to the varied poisons which may get into the blood stream. But a conjunctivitis from the same condition is so rare that many deny its existence, a denial which goes too far. For in septic teeth the pneumococcus germ is occasionally found, and this germ does cause a type of conjunctivitis. It reaches the conjunctiva not through the blood stream but by being carried by the finger from the mouth to the eye. A few other germs which attack teeth may involve the conjunctiva, but, generally speaking, teeth rarely cause conjunctivitis. This latter condition is due to a variety of germs, and, though occasionally the clinical appearance of the disease is so distinct as to admit of the organism being identified, it is more trustworthy to submit the discharge to a bacteriological examination. A condition which is readily recognised is that of angular conjunctivitis, in which the redness of the eye, being confined to the angle of the lids, creates a striking picture. But, like the mouth, many types of organisms reside in the conjunctiva, and from a swab taken from a healthy eye the pneumococcus can generally be cultivated. Now the power of this germ to attack the eye may be directly influenced by a refractive error, and though the wearing of glasses may preclude other attacks, the cure necessitates the instillation of antiseptic lotions.

Vision and Aviation Accident.—E. C. Clements ("British Medical Journal," II, 1925, p. 912), referring to the tests for visual defects in flying officers, states that convergence was tested by the ability to focus an object at decreasing distances from the face. If convergence was still possible at a distance of two inches this was classified as "very good"; at two to three inches "good"; at four inches "fair"; and anything over four inches was considered "poor." The errors brought to light were inability to fix at a nearer distance than four inches, and the continuance of convergence in one eye after it had ceased in the other. A second test was the covering of one eye while an object was brought near to the nose. The eye was then uncovered, and should be found directed to the object. The exclusion of conditions of heterophoria was of considerable importance, and the usual test was employed, red glass being placed in front of one eye and green glass in front of the other. With normal vision two images were obtained, but in abnormal conditions one image was suppressed either temporarily or permanently. This suppression might be the result of habit, as in some schools the pupils were taught to close one eye—in reading the slide rule, for example—in order to secure accuracy. This type of person invariably failed as an airman. In the examination of 397 civilian pilots 387 showed no visual errors, three were border-line cases, and the remainder showed more serious errors. Of 124 civilian pilots distinguished for their ability to land skilfully, 123 showed the absence of visual errors, while the remaining pilot was eventually proved to be suffering from temporary fatigue owing to a long railway journey. It had also been found that after such conditions as concussion, neurasthenia, influenza, and the fatigue brought on by high altitudes, there might often follow loss of convergence and binocular vision. There was a considerable amount of evidence to show that this loss was toxic in origin. Convergence errors due to influenza disappeared slowly, but there was some tendency to the formation of a habit of suppressing one image. The occurrence of fatigue tended to increase suppression of one visual image, and flying accidents are due not so much to failure of visual acuity as to failure of convergence, whether arising from fatigue, toxic conditions, or essential causes.

PHARMACOLOGY

Excretion of Sodium Benzoate.—A series of tests were made by Bordas, François-Dainville and Roussel ("Presse Médicale," October 3, 1925) to establish the

process of excretion of sodium benzoate, particularly in view of the use of this compound as a preservative for foods. A single dose of 2 grams was administered to 18 persons of various ages, with the result that in three persons the presence of benzoic acid and hippuric acid was demonstrated in the urine after a lapse of three hours, while in 13 persons these acids did not appear until the second day, and in two only after three days. In a second series of experiments 2 grams of sodium benzoate was administered daily on eight consecutive days, with the result that its retention in the organism was still more marked, as it was not completely excreted until three days had elapsed since taking the last dose. The authors express the opinion that the general use of sodium benzoate as a preservative might be fraught with the risk of producing more or less serious disturbances, as a result of its retention in the organism.

A New Diuretic.—A. R. Gilchrist has reported on the effect of novasurol as a diuretic ("Lancet," II, 1925, p. 1019). Novasurol was originally introduced by the Bayer Company as an organic compound of mercury for the treatment of syphilis, its composition being sodium-oxymercuric-ortho-chlorophenol oxylacetate with dimethyl malonylurea. Later its diuretic properties were noted by Saxl and Heilig in 1920. The drug is put up in sterile ampoules and is administered in doses of 1-2 c.c. by intramuscular or intravenous injection, each c.c. containing 0.1 gram of the drug. As a test of its capabilities it has been employed in several cases of advanced cardiac failure where the response to digitalis, the diuretics in common use, and the usual therapeutic measures were unsatisfactory—in fact, where the patient's clinical state was virtually at a standstill. As a result of experiments by the other investigators Dr. Gilchrist concludes that novasurol is a diuretic of great value in cardiac failure. It appears to be of greater potency and certainty than any of the other diuretics in common use. When employed with digitalis each enhances the other's action.

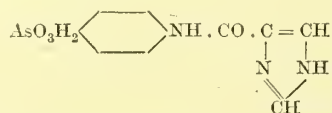
Narcotic Effects of the two Hyoscines.—J. Chassar Moir ("British Medical Journal," II, 1925, p. 514), in comparing the narcotic effects of the two hyoscines, states that hyoscine exists in two forms as optical isomers. The levorotatory alkaloid is that occurring in nature and used in therapeutics; the dextro-rotatory may be formed artificially from it. A mixture in equal parts of the two isomers, known as racemic hyoscine, is not infrequently met with, especially in old solutions of the natural form. While these forms cannot be differentiated by ordinary reagents, they can be distinguished by substances which themselves rotate the plane of polarised light and are optically active. It was decided to determine whether there is any difference in their effects on living tissues. From clinical observations therefore it was found that only levo-hyoscine is active in producing amnesia, in depressing the intelligence, and in controlling restlessness. The dextro-rotatory form in doses of 1/100 grain or more is apparently inert in these directions, and can only be regarded as a useless ingredient of hyoscine when present, to be eliminated where possible.

Ephedrine.—Ephedrine is the name given to an active principle of *Ma Huang* (*Ephedra vulgaris* var. *excelsa*), which has been used in Chinese medicine for more than 5,000 years. Ephedrine has general physiological effects in man similar to those produced by adrenalin. It has, however, distinct practical advantages over the latter because of its more prolonged action and the fact that it can be administered effectively by mouth. A clinical investigation of the drug was undertaken by T. G. Miller ("American Journal of Medical Sciences," August 1925), who found that in doses of from 50 to 125 milligrams, given orally or subcutaneously, ephedrine sulphate usually raises the systolic and diastolic blood pressure and decreases the pulse rate for a period of several hours. It also stimulates the heart action and has a tendency to increase the output of urine. It sometimes increases the basal metabolism. Its administration caused temporary improvement in two cases of Addison's disease,

The Progress of Pharmacy and Allied Sciences

gave relief in the paroxysmal attacks of certain cases of asthma, relieved the subjective sensations in a case of urticaria, caused a disappearance of urticarial lesions in a case of serum disease, and produced marked temporary improvement in a case of circulatory failure incident to myocardial disease and the evacuation of an overfilled urinary bladder. In a single case of complete heart block it produced an increase in both the auricular and the ventricular rates and caused alterations in the character of the electrocardiographic tracings. Locally applied to the nasal mucous membrane, ephedrine causes prompt contraction which persists for more than three hours and has no local irritant effect. It is believed that the wide range of usefulness of ephedrine will be found in the treatment of asthma and of acute circulatory depression, and in the management of certain congestive nasal conditions.

Trypanocidal Action and Chemical Constitution.—I. E. Balaban and H. King, in continuing their studies upon this subject ("Journal of the Chemical Society," 127, 2701), have prepared two arsenic acids containing a glyoxaline nucleus, viz., (I) Glyoxaline 4'-carboxy-*p*-amino-phenyl arsinic acid and (II) 3-amino-glyoxaline-4'-carboxy-*p*-amino-phenyl arsinic acid. The constitution of (I) is



It was hoped that the presence of the glyoxaline nucleus (which is associated with histamine, insulin and pituitary) would lead to a more favourable distribution of the amide in the tissues as regards trypanocidal action. Tests show that these glyoxaline derivatives have permanent curative properties. Below are given the maximum dose tolerated by mice and the minimum curative dose in mice infected with *Trypanosoma equiperdum* (in milligrams per gram of mouse):—

	I	II	3'-NH ₂	3:3'-diNH
Dosis tolerata ..	1.25	3.0	0.6	> 3.5
Dosis curativa ..	0.8	1.5	0.3	2.0
			(<i>r</i> =7)	

Thus glyoxaline-4'-carboxy-*p*-amino-phenyl arsinic acid (I), unlike 3' amino-benzoyl-*p*-amino-phenyl arsinic acid, has permanent curative properties, the *r* under the latter signifying the number of days the blood stream remains free from parasites. The enhanced curative properties of 3:3'-diamino-*p*-amino-phenyl arsinic acid (last column) are surpassed in 3-amino-glyoxaline-4'-carboxy-*p*-amino-phenyl arsinic acid. The permanent curative properties appear when a methoxy group is present in the para position in the benzoyl group or when two amino groups are present (one in each nucleus), and the glyoxalines which resemble in build and amphoteric character the above amides are also permanently curative.

Liberation of Salicyl from Methyl Salicylate.—The liberation of salicyl from methyl salicylate in "buffer" solutions *in vitro*, according to P. J. Hanzlik and N. E. Prescho ("Journal of Pharmacology and Experimental Therapeutics," August 1925) is slow and poor, amounting to less than 1 per cent. at the end of six hours under conditions of alkalinity possible in the alimentary tract. It was somewhat higher, less than 2 per cent., at the end of six hours, and less than 3 per cent. at the end of twenty-four hours, in strongly alkaline solution of *pH* 8.4. The excretion of total salicylate in six convalescent patients, of whom five received "toxic" doses of the drug, was rather variable, and averaged 50.8 per cent. uninfluenced by dosage of the drug, diuresis and convalescent condition. Of the total salicyl excreted the proportion represented by methyl salicylate studied in five patients was found to be from 0.13 to 0.43 per cent., average 0.21 per cent., and of the amount of ester administered, the total excretion of ester in three patients was from 0.055 to 0.116 per cent. The duration of excretion in six patients was from 62 to 124 hours. Three subjects receiving

small doses of 1.186 gram each showed a total salicyl excretion of 50.5 per cent., and the duration was from fifty-one to seventy-four hours. Hence, only a small proportion of methyl salicylate escapes unchanged, and it appears that the alkalinity, enzymes and bile of the alimentary tract do not participate much in the considerable liberation of sodium salicylate from methyl salicylate in its passage through the body. The full development of the symptoms of salicylism from methyl salicylate was rather variable in three of the patients, requiring a much longer time than with sodium salicylate, acetylsalicylic acid and salicyl salicylate, suggesting slower and irregular absorption of the ester.

Investigation of Mercurochrome.—A. T. Todd ("Lancet," II, 1925, p. 1617) has investigated clinically the action of mercurochrome, which is described as dibrom-oxy-mercury fluorescein. The preparation is an antiseptic acting powerfully in weak dilution even in the presence of albumins; it penetrates deeply and, although it contains 24 per cent. of mercury, it is feebly toxic. By several local surgeons this substance was found to give excellent results in some cases, but in others, apparently identical, its action was disappointing. It was this variability which suggested the investigation. Mercurochrome is freely soluble in water, but in distilled water, which has a faint acidity, it is rapidly broken down, especially when exposed to light. In normal saline which is feebly alkaline it is much more stable and appears to keep indefinitely in the dark. A solution in this solvent six months old was recently tested and no alteration was noted. Four samples have been examined, and no differences in toxicity or antiseptic activity could be determined. The actual acidity of the solution was found to be of more importance than the concentration of the antiseptic. At acidities near to the neutral point the antiseptic is so little powerful that the organism can grow in its presence; a relatively slight acidity first inhibits growth and another slight increase causes death. Weight for weight mercuric chloride was found to be more powerful, but in regard to its mercury content mercurochrome is the more powerful.

The Value of Trypansomide.—C. C. Chesterman ("Lancet," II, 1925, p. 965), discussing the efficacy of trypansomide in human infections caused by *Trypanosoma gambiense* and *T. rhodesiense*, states that there is plenty of evidence to show that really early cases can remain to all intents and purposes cured after a single administration of one of these drugs—i.e., atoxyl, soamin, arsacetin, tartar emetic. Series of cases treated by one to three injections show varying percentages of cures according to dosage and the stage of disease reached, about which there is often no definite information. Even cases the examination of whose cerebrospinal fluid had proclaimed them to be in the second stage have been apparently cured. Details of treatment are given in detail, as although in the author's experience trypansomide cures African sleeping sickness, it does not always do so as at present administered. This preparation should be the mainstay of the attack on trypanosomiasis. This principle has been adopted by the Belgian Government, which is responsible for the treatment of 50,000 cases annually.

Borocaines, the New Local Anæsthetics.—A. J. Copeland and H. E. F. Notton ("British Medical Journal," II, 1925, p. 547) give a detailed account of their investigations undertaken to determine the factors concerned in surface anesthesia with a view to finding a local anæsthetic equal in efficiency to cocaine hydrochloride but without its poisonous properties. If the anæsthetic bases are combined with strong acids, the salt is relatively rapidly absorbed into the general circulation and is less effective locally. On the other hand, if combined with a weak acid which does not electrolytically dissociate to any considerable extent, it is relatively slowly absorbed into the general circulation and is more effective locally—that is, its toxicity is relatively low and its specific anæsthetic efficiency relatively high. The borocaines fulfil these conditions—that is, they are much less toxic than the original hydrochlorides, from which they can be prepared, but

III The Progress of Pharmacy and Allied Sciences III

often exert more than ten times the anæsthetic action. The whole of the observations now recorded lead to the general conclusion that surface anæsthetic action is determined by the base in the free dissolved state, and not by the electrolytically ionised base. For further testing the general applicability of this conclusion to surface anæsthetics as a class, comparative experiments were made with a number of local anæsthetics as they are usually employed—namely, as hydrochloride or sulphate—and as borates, these latter salts being prepared from the commercially available salt. In every case the borate has a much greater surface anæsthetic action than the electrolytically highly dissociated salt in general use. In the course of this work the solid crystalline borates of cocaine, ethocaine, butyn, tutocain, holocaine, alypine, stovaine, and beta-eucaine were prepared, together with the borates of two new ethocaine derivatives. It is remarkable that the borates of the organic bases have received practically no attention from chemists; scarcely any of these substances have hitherto been prepared in a state of purity. This is naturally due to the fact that they undergo hydrolytic dissociation in aqueous solution, and thus in general could not be obtained pure by crystallisation from water. The borate of beta-eucaine base is the most powerful borocaine, being more than ten times as efficient as cocaine hydrochloride. The toxicity is not yet determined. The efficiency of the borocaines as surface anæsthetics depends upon the pH value for the salt in aqueous solution being kept high—namely, on the alkaline side of neutrality; great care has therefore to be taken in preparing the salt to ensure that no factor is introduced which will depress the pH value. Borocaines are made by The British Drug Houses, Ltd.

PHOTOGRAPHY

Photo-Chemical Decomposition of Silver Chloride.—E. J. Harting ("Journal of the Chemical Society," November, 1925) has investigated by the aid of a micro-balance the decomposition of silver chloride when insolated in thin films in the presence of air, nitrogen, and hydrogen. The maximum loss of total chlorine was in air 91.1 per cent., in nitrogen 89.9 per cent., and in hydrogen 94.8 per cent. The decomposition products are considered to be silver and chlorine only, evidence of formation of subchlorides not being obtained.

Avoiding Purplish Sepia Tones.—O. J. M. ("British Journal of Photography," November 6, 1925) describes some experiments he has made to investigate the cause of purplish hues when using the ordinary bleach and sulphide toning process. In conclusion he advocates the use of fresh developer with sufficient bromide; keeping the tank well covered between the batches; the use of a minimum sufficient amount of developer once only, instead of a lavish amount several times; development should not be carried too far; the prints should not be rinsed after development, but placed directly into the hypo and kept well under.

Actinic Power in Australia.—A. Knapp ("British Journal of Photography," September 11, 1925) has made a series of photometer observations, covering a period of twelve months, in Western Australia. These show some remarkable variations in actinic power, the following figures representing the actual times occupied in "matching tints":—

Bright sunlight without clouds	..	8 to 15 seconds
Bright sunlight when clouds were present	..	5 to 8 seconds
Diffused light with sun shining through clouds	..	4 to 7 seconds
Overcast, with no sun visible	..	3 to 6 seconds
Light rain	..	1½ to 3 seconds

All the tests were made with the body interposed between the sun and the actinometer. It is suggested that the variability depends on humidity and the character and height of the clouds.

f/ Numbers.—Time has shown the practicability, not only of making, but of using, lenses of larger aperture than f/4. Hence it comes about, states the "British Journal of Photography" (September 18, 1925), that the original Royal Photographic Society's series of apertures, f/4.

f/5.6, f/8, f/11.3 and so on has been abandoned by many Continental makers in favour of a series which starts with f/3.16, has as its next number f/4.5 and then continues as f/6.3, f/9, f/12.5, and so on. In this series, as in that of the R.P.S., each stop requires double the exposure of the preceding one. It seems rather a pity, in view of the continuous progress in the design of lenses of extreme aperture, that Continental makers should think it necessary to discontinue the use of the aperture numbers such as f/8, f/11, f/16 and so on, which have become familiar throughout the world, and are commonly used in exposure tables and calculators. Apparently the change has been made simply with the object of getting a series which includes f/4.5, yet as time goes on the R.P.S. series, starting from f/2.8, may come into its own again.

Opalescence in Spirit-Dried Negatives.—J. I. Crabtree ("British Journal of Photography," November 27, 1925) points out that this phenomenon has been attributed to various causes, such as the use of alcohol containing rosin or naphtha, or insufficient washing. Although such factors may influence the amount of opalescence produced they are not the only determining factors, since it is possible to obtain severe opalescence by immersing a film of plain gelatin free from lime in pure grain alcohol and drying at a temperature of 95° F. The amount of opalescence produced is greater the more rapid the drying and the higher the temperature of drying; but, even if the film is insufficiently fixed and washed, opalescence rarely occurs if drying is conducted at 70° F. The opalescence is apparently due to a change of the gelatin by the alcohol to a dehydrated modification which is also produced by adding alcohol to a solution of gelatin in warm water. Hard gelatin more readily precipitates than soft gelatin. The precipitation is also produced by strong solutions of hypo or sodium sulphite. When fixing a negative in a strong solution of hypo containing an excess of acid hardener, the fixed-out film often appears milky, especially in warm weather, though the milkiness disappears in the wash water, when the dehydrated gelatin returns to the hydrated modification. This opalescence will often appear when removing sulphur stains with a warm solution of sodium sulphite, but disappears on washing.

Colour Cinematography.—C. Friese-Green ("Photographic Journal," November 1925) deals with his spectrum process of colour cinematography. After briefly outlining the process, he states that recently his attention has been directed to trying to secure a suggestion of green where greens are found in nature. He thinks the reason for the difficulty with the greens is the sensitivity of the actual panchromatic film, which generally is not so fast for greens as for the other colours of the spectrum. Sometimes when taking a photograph one does get some suggestion of green, but it is never certain. It is probably due to the angle of reflection. The green of the spectrum is practically centre spectrum, and in cinematography, to be able to get exposures at all, one must use transmission filters of light density. With a red filter on the "lightish" side it begins to pass green in the red picture; therefore the desired cutting out of green from the red picture is not secured. As regards the blue-green picture, the film being more sensitive, naturally, to the actinic rays, the blue impressions are secured from a very small area of white exposure. In conjunction with that white exposure, to try and assist the greens, he now uses a reddish filter in combination with white light, which, although against theory, has proved very effective, especially in so far as the greens of nature are concerned. Another thing is the way in which the different densities of prints affect the different colourings that have actually been photographed. He has made tests of a scene and taken off several density prints of it coloured in the usual way, so that it could be seen how a different density of print altered the actual colour. Also, by altering the densities of the dyes actually put on the positive film, ranging from a dark green and dark red to a light green and light red, he has endeavoured to arrive at the proper balance of the luminous values of the two alternate

The Progress of Pharmacy and Allied Sciences

colours. If these are out of balance one is assisting screen flicker, and it is only by getting an absolutely perfect balance of these two colours that the best presentation can be made.

VETERINARY MEDICINE

Poisonings by Cream of Tartar and Sulphur.—G. W. Clough ("Veterinary Record," 1925, p. 719), in a communication on some uncommon cases of poisoning, states that analysis of the crop and gizzard of some ducks which collapsed and died shortly after being fed revealed the presence of cream of tartar and complete absence of common mineral and vegetable poisons. Inquiries elicited that the salt was used for baking, and on the day in question a "waste" cake had been put in the ducks' food bucket.—On analysis of the entrails of a pig ten grains of sulphur was separated from one ounce of stomach contents and fifty grains of sulphur from one ounce of a selected portion of the stomach contents. The animal had been given excessive doses of sulphur, and was suffering from sulphur poisoning.

Mercurial Poisoning in a Dog.—J. F. D. Tutt ("Veterinary Journal," November 1925) records a case of mercurial poisoning in a dog caused by the animal licking "troopers' ointment" which had been applied to a cyst on its leg. The lips were swollen and covered with small pustules, both external and internal. There was a distinct slaty-coloured line on the gums, breath slightly offensive, teeth were not discoloured and were not loose, slight dribbling of saliva. The pads of all four feet were very tender and "peeling," and the interdigital spaces were reddened and inflamed and a greasy exudate present. On grass the dog could walk fairly well, but on hard ground it was like the proverbial cat on hot bricks. Treatment consisted in bathing the mouth with chlorate of potash solution, the feet with caporit lotion, and then drying and dusting with a cooling dusting powder, and the internal administration of potassium iodide in 1-grain doses three times a day.

Dose of Carbon Tetrachloride for Puppies.—A. S. Schlingman ("Journal of the American Veterinary Medical Association," July 1925) finds that pups three months of age (8 lb. and upwards) tolerate doses of carbon tetrachloride which are considerably in excess of the recommended 0.3 c.c. per kilogram of body weight. Those six weeks old and under do not tolerate any great amount of carbon tetrachloride, 0.5 c.c., and a lesser amount in extremely young animals, with or without a purgative, being sufficient to produce death in 16 to 48 hours. To puppies between the ages of six weeks and three months 0.12 c.c. per lb. of body weight can be given without any bad effects. Although soft gelatin capsules containing carbon tetrachloride are insoluble in hot water they readily dissolve in the stomach of the dog within one hour. The solubility of these capsules is apparently not affected by either the fullness of the stomach or by the age of the capsule.

Value of Ultra-Violet Light.—E. J. Frick and J. F. Bullard ("Journal of the American Veterinary Medical Association," July 1925) call attention to the value of ultra-violet light in the treatment of animal diseases. Following a description of the apparatus and its application, they state that repeated results on some forty or fifty cases give a feeling of justification in offering three typical case reports. A greyhound which met with an accident while coursing was anaesthetised and the bones with necrotic surfaces removed. The wound was given a daily exposure of three minutes to ultra-violet light and healed exceedingly rapidly with almost entire absence of pus formation. The second case cited is of a bull terrier suffering with acute moist eczema with complications. The hair was clipped over the region, the place wiped and a twenty minutes' exposure given. Zinc ointment was applied on one area on the head. In five days the animal was taken home. Of eight typical cases of canine distemper, five recovered in varying periods of two to four weeks' time after a daily exposure of twenty minutes to the actinic ray.

Potassium Permanganate for Poultry.—S. Eriksen ("Journal of the American Veterinary Medical Association," July 1925) has conducted a number of experiments to investigate the value and limitations of potassium permanganate, as well as other purifiers, to the drinking water of fowls. It was found that potassium permanganate compared favourably with the other drugs tested, including acriflavine, boric acid, carbolic acid, catechu, chlorinated soda, copper sulphate, iron sulphate, mercuric chloride, potassium dichromate and sulphocarbates. A good purple colour indicates that the permanganate is active, regardless of the length of time it has been exposed. To prove that growing chicks are not injured by the continued use of permanganate, twenty birds, three weeks of age, were offered water containing one-quarter of a teaspoonful of the chemical per gallon (1:2000) and the treatment was continued for nine weeks, at the end of which time only one chick had died. All the others developed normally. It was further found that when fed with sour milk permanganate does not produce harmful substances.

Pharmaceutical Society of Cape Province

THE annual general meeting was held in the Board Room, Markham's Buildings, Capetown, on November 18. Amongst those present were Messrs. Clancy (President), A. Meyer, T. J. Hughes, A. E. Linley, S. W. Hill, A. Pirie, J. Murphy, H. B. Miller, F. B. Wasserfall, S. C. Lazarus, J. Sloan, J. Barrie and Dr. Froembling. The minutes of the last annual general meeting were taken as read and confirmed. The secretary's report showed that five new members had joined during the year, whilst the Society had lost one by the death of Mr. A. Dowling. The Society had been represented at the Durban Conference of the Associated Pharmaceutical Societies of South Africa by Messrs. Linley and Lazarus, and the proceedings of the Conference had been circulated to all members. The treasurer submitted the financial report and balance-sheet, showing a satisfactory position. The treasurer of the benevolent fund reported that there had been only one call on the fund during the year. Dr. Froembling gave a full report of the activities of the Society's school during the year, and was accorded a hearty vote of thanks for his services. The various reports were adopted and a vote of thanks passed to the honorary auditors, Messrs. Bridger and Cheetham. The President briefly outlined the Society's work for the year and thanked all those who have so willingly assisted to make his third year of office a successful one. The President reported that the executive committee of the "Retail Chemists' Association" had for some time past been anxious to wind up the affairs of the Association, but had been unable to obtain a quorum at any of the meetings called for the purpose. Every individual member had now been asked if there were any objection to the Association being handed over to the Pharmaceutical Society; any funds transferred to be held in trust to carry on such work as the Association had been doing (price protection, compilation of price lists, etc.). No objection having been raised the executive committee now asked the Pharmaceutical Society to accept the trust. It was decided on the motion of Mr. Lazarus, seconded by Mr. Murphy, to accept the trust and to call a special meeting to deal with price protection. The Council for the ensuing year will consist of Messrs. Lazarus (President), Clancy, Hughes (Vice-Presidents), Miller (secretary), Murphy (treasurer), Barrie, Froembling, E. Linley, Meyer, Pirie, Sloan and Wasserfall.

BRITISH GULANA CHICLE.—The prospects of a chicle industry in the colony were discussed at a meeting of the council of the local chamber of commerce on October 30, arising out of inquiries from England. It was mentioned that six years ago considerable amounts of chicle were exported from the north-west district of British Guiana, but the industry was killed because the cost of production was too high.

Personalities

AN erroneous statement, which we much regret, was made in the *C. & D.* last week (p. 872) regarding Dr. Bernard Kelly, Exeter, in recording the result of the recent Insurance inquiry. It is the Exeter Insurance Committee that is to pay £52 10s. towards the costs of Dr. Kelly, not that Dr. Kelly has to pay this amount, as stated last week.

WE understand that Sir William Glyn-Jones is leaving for Canada on January 22.

MR. R. G. W. NORRISH, Ph.D., son of Mr. H. Norrish, Cambridge, district manager for Boots, Ltd., has been elected to a research fellowship at Emmanuel College, Cambridge.

COUNCILLOR W. G. WELLS, chemist and druggist, Maidstone, has been appointed to the health, sanatorium, drainage, and museum committees of the Maidstone Town Council, and to the education committee of the Kent County Council.

MR. AND MRS. W. LAWRENCE J. READ, 8 Lanark Mansions, Maida Vale, London, W.9, celebrated their silver wedding on December 22. Mr. Read has represented Johnson & Johnson (Great Britain), Ltd., Golden Lane, E.C., in the City and West End for the past thirty-three years.

MR. HENRY AYLMER COATES, only son of Mr. J. F. Coates, C.E., chief electrical engineer for the city of Nelson, British Columbia, and eldest grandson of Mr. U. Aylmer Coates, M.P.S., Burnley, has been initiated into freemasonry at Nelson Lodge, No. 23, of the A.F. and A.M., G.R.B.C.

MR. G. B. BROOK, chemist and druggist, 22 Sugden Road, London, S.W.11, has been elected secretary of the London (South-West) Branch of the Retail Pharmacists' Union. This information should have been given in place of one of the notes in our issue of December 19, designed to bring the new *Diary* to date.

MR. J. REGINALD BEAL, son of Mr. Johnson Beal, chemist, 446 Rochdale Road, Manchester, has taken the degrees of M.B. and Ch.B. (Vict.). Dr. Beal, after matriculating from Manchester Grammar School in 1920, entered Manchester University. Earlier in the present year he obtained the diplomas of M.R.C.S.Eng. and L.R.C.P.Lond.

Deaths

EASTLAND.—At Margate, on December 20, Mr. John Eastland, J.P., chemist and druggist, aged sixty-three.



MR. J. EASTLAND, J.P.

Mr. Eastland was successively junior assistant, senior assistant, and partner in the business which he eventually owned. It was established by Mr. E. Wootton in 1833, and possessed a front designed in the Gothic style, making it a landmark in the district. Mr. Eastland held office in the Isle of Thanet Chemists' Association for some years as secretary; in 1911 he was elected President, and the portrait reproduced here dates from that period. He was also prominent in local freemasonry. His son, Mr. C. J. Eastland, Ph.C., was senior Bell scholar in 1913.

GERRARD.—The funeral of the late Mr. A. W. Gerrard, Ph.C., whose death was recorded in our issue of December 19 (p. 855), took place at Brandwood End Cemetery, Birmingham, on December 18. The family was represented by three sons and a son-in-law, and the attendance of the staff and employees of Cuxson, Gerrard & Co.,

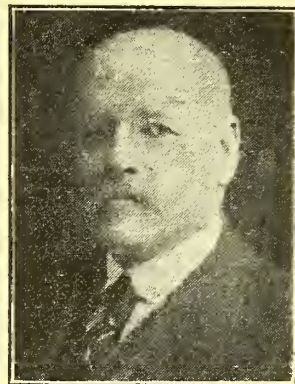
Ltd., numbered 100. The ceremony took place with Masonic rites. Among others present who had been closely associated with Mr. Gerrard in pharmaceutical or other circles were Mr. S. Abraham (representing the Provincial Grand Chapter of Warwickshire), Councillor Hume (chairman of the Birmingham Education Subcommittee), Mr. Cuxson, Mr. F. Smith, Captain E. C. Benison, Ph.C., Mr. Maurice Smith, Mr. H. Buckingham, Mr. F. J. Gibson (Wolverhampton), Mr. J. W. Atkinson, Mr. E. W. Mann, Mr. T. Hipkiss, Mr. J. Thomas (Bellamy & Wakefield), Mr. Vernon Thompson, Mr. Herbert Thompson, Mr. J. T. Bell (past-President, Birmingham Pharmaceutical Association), Mr. H. H. Marshall, and Mr. F. H. Alcock, F.I.C., Ph.C. Many beautiful wreaths were sent by members of the family, the directors and staff of Cuxson, Gerrard & Co., Ltd., the Birmingham Pharmaceutical Association, and others.

KEMP.—At Alford, Lincs, on December 21, Mr. Robert Kemp, chemist and druggist, aged eighty.

MARSHALL.—Recently, Mr. James Marshall, chemist and druggist, 22 Wavertree Road, Liverpool. Mr. Marshall passed the Modified examination in 1869.

SELFE.—At the London Hospital, London, E.1. on December 14, Mr. William Gilbert Selfe, Ph.C., Ilford, aged seventy-nine.

TAYLOR.—At 11 Wilton Crescent, Glasgow, on December 16, Mr. John Taylor, managing director and chairman of James Taylor (Trongate), Ltd., wholesale druggists, 132 Trongate. The business was established about ninety years ago by the late Mr. James Taylor, Mr. John Taylor's father. After the death of the father the firm was carried on by the late Mr. Tom Taylor and his brother; and on the death of Mr. Tom Taylor in 1920, the business was converted into a private limited company. The firm, which was one of the first in this country to introduce shaving powder, continued to make progress as a company under Mr. John Taylor's management.



MR. JOHN TAYLOR

Mr. Taylor was highly respected in the West of Scotland. He was a member of the Glasgow Trades House, of the Incorporation of Wrights, and also of the Drug Club. He joined the First Lanarkshire Artillery Volunteers in 1880, and retired in 1906 with the rank of Colonel.

TOMLINSON.—At Poulton-le-Fylde, recently, Mr. William Tomlinson, father of Mr. Thomas M. Tomlinson, Ph.C., Southport, aged seventy-two.

WICKHAM.—At his residence, 270 Park Avenue, New York, U.S.A., on November 21, Mr. William Hull Wickham, formerly senior partner of McKesson & Robbins, manufacturing chemists, New York, aged seventy-nine. Mr. Wickham entered the employment of McKesson & Robbins in 1866, and was taken into partnership in 1870. His activities in the drug and chemical trades covered a period of half a century, until his retirement in 1916.

WILLIAMSON.—At 62 Albury Road, Aberdeen, recently, Mr. Alexander Williamson (William Davidson, Ltd., wholesale druggists, Palmerston Road). Mr. Williamson was a drug-trade representative in the North-East of Scotland for nearly forty years.

WRIGHT.—At Woodlands, Bowes Road, New Southgate, London, N.11, on December 8, Mr. Alfred Wright, Ph.C., A.K.C., aged seventy-one. Mr. Wright, who passed the Major examination in 1880, was in business at Yeovil prior to coming to London. For a long period he was associated with the Chameleon Oil Co., Ltd., Eden Grove, Holloway, N., and of late years he had returned to the retail trade as manager.

Trade Notes

FREE SHOWCARDS.—Mr. Bernard Slack, 15 Christchurch Avenue, West Didsbury, Manchester, makes in this issue a special offer of free showcards to those taking up his business system in the next five weeks.

GRIPS PASTILLES.—The advertisement of Grips First-aid Pastilles in this issue is a miniature reproduction of a large poster which is being extensively used throughout the country. The poster is 10 ft. by 14 ft., and is printed in colours. It should be a potent aid in increasing sales.

BLEACHODENT PREPARATIONS.—Bleachodent Dental Laboratories, 3 Lower John Street, London, W.1, advise us that on and after February 1, 1926, the retail prices of Bleachodent toothpaste, Bleachodent liquid, and Bleachodent combination will be reduced to 1s. 6d., 1s., and 2s. respectively.

HOWARDS & SONS, LTD., manufacturing chemists, Ilford, send us a specimen of their wall calendar (10½ in. by 14½ in.) for the year 1926. In the centre is an aeroplane view of the company's laboratories and works, covering an area of more than 500,000 sq. ft., and at one side is a representation of the Plough Court pharmacy, in which Luke Howard, F.R.S., was a partner with William Allen. Messrs. Howard will forward a copy of the calendar to any retail chemist on application.

CHRISTMAS HOLIDAYS.—The following alterations are announced in the Christmas holiday arrangements of the wholesale houses mentioned in the *C. & D.*, December 19, p. 866: Burge, Warren & Ridgley, Ltd., Great Saffron Hill, London, E.C.1, will be closed December 24-29; Thomas Morson & Son, Ltd., Gray's Inn Road, London, W.C.1, will close their works and warehouse December 24 to January 1, and the head office December 24-28; Oldfield, Pattinson & Co., Manchester, in addition to closing December 24-28, will also close on January 1 and 2; Hoffmann-La Roche Chemical Works, Ltd., have made arrangements with Wallas & Co., 36 New Cavendish Street, London, W., to supply emergency orders for "Roche" products during the holiday period (December 24-28).

WELLCOME PHOTOGRAPHIC DIARY.—The 1926 edition of the "Wellcome Photographic Calculator, Handbook and Diary" well maintains the standard set by its predecessors, and the large amount of practical information and reference tables which it contains should enable chemists to effect ready sales. A noticeable feature of the present edition is that the table devoted to the relative exposures necessary when using different brands of development papers, from bromide to the most contrasty makes of the so-called "gaslight" variety, has been considerably increased. It is interesting to note that some slow gaslight papers require over 2,000 times as much exposure as the fastest bromide papers, and that there are many stages between these extremes. The modern warm black papers occupy an intermediate position, being from 64 to 128 times, or more, slower than the fastest bromides. These tables, together with those devoted to the classification of practically all makes of plates and films according to their exposure speeds and their development speeds, make this book an encyclopædia of speed rating. The retail price is 1s. 6d.

Business Changes

MR. R. G. JONES, chemist and druggist, has opened a business at James' Place, High Street, Bagillt.

MR. R. A. EVANS, chemist and druggist, is opening a pharmacy at 110 Seven Sisters Road, London, N.7, on January 11, 1926.

MR. F. E. WHITFIELD, chemist and druggist, 72 Regent Road, Great Yarmouth, has acquired the business of Male & Co., chemists, 176 King Street, and on December 28 will remove it to 167 King Street. Mr. H. F. Rome, chemist and druggist, will be in charge of Mr. Whitfield's Regent Road business.

Westminster Wisdom

By the "C. & D." Parliamentary Representative.

PARLIAMENT PROROGUED

The House of Commons prorogued on December 22 until February 2.

OPIMUM TRAFFIC

Mr. Thurtle asked the Under-Secretary of State for India, on December 21, whether the Government of India agreed at Geneva to allow an independent committee of the League of Nations to visit India to examine the control of the opium traffic?

Earl Winterton: Under the Protocol to the Geneva Convention a Commission will be appointed by the Council of the League of Nations to decide at the end of five years whether control in the signatory countries is sufficient to prevent completely the smuggling of opium from constituting a serious obstacle to the effective suppression of the use of prepared opium in those territories where such use is temporarily authorised. The Protocol has been accepted by the Government of India.

DISPENSERS AT NETLEY

Lord Erskine asked the Secretary of State for War, on December 21, the total number of pharmacists employed at Netley Hospital; and what is the rank and pharmaceutical qualification of the senior soldier in charge of this dispensary?

Sir L. Worthington-Evans: There are no pharmacists employed at Netley Hospital. The soldier in subordinate charge of the dispensary there is a staff sergeant, Royal Army Medical Corps, who holds a dispenser's qualification.

Lord Erskine also asked the Secretary of State for War what distinction is drawn in the Royal Army Medical Corps between a dispenser, Class I, and a pharmacist, Class I; and what advantages, if any, are enjoyed by the latter over the former as regards pay, status, and promotion?

Sir Laming Worthington-Evans: A pharmacist Class I (Private) who is in trade Group A draws 3d. a day more pay than a dispenser Class I (Private) who is in trade Group B. For the purposes of promotion to warrant and non-commissioned rank no preference is given to the former over the latter. Subject to certain educational and technical qualifications, promotion is awarded on account of merit and competency in the general duties of the corps, and not for skill at a particular trade.

SUPPLY OF DENTURES

Mr. Warne asked the Minister of Health, on December 21, whether the Ministry recognises the specifications issued to approved societies by the Public Dental Service Association as suitable to enable a standard denture to be supplied to insured persons; in view of the varying kinds, qualities, and prices of materials to be used in the making of dentures, has the Ministry of Health introduced any scheme for ensuring dental treatment and dentures of a standard price and quality as in the case of medical benefit, e.g., chemicals, materials, and appliances supplied by the doctors, chemists, and druggists; and has the Ministry defined by Statute, under Section 75 (5) of the National Health Insurance Act, 1924, dental treatment as being in the nature of medical benefit?

Mr. Chamberlain: The specifications in question which represent the results of negotiations between representatives of the dental profession and of certain approved societies do not require and have not received any recognition from my Department. As regards the second part of the question, I have no power under the existing Acts to make Regulations on the lines suggested by the hon. member. As regards the last part, I am advised that, having regard to the terms in which this benefit is defined in the Acts, it is not a benefit in the nature of medical benefit for the purposes of Section 75 (5).

A DANCE was held on December 16 by the junior section of the Plymouth Branch of the Pharmaceutical Society, Mr. Hawkins acting as M.C.

Observations and Reflections

By Xrayser III

Strict Adherence

to the Dangerous Drugs Regulations by dispensing chemists will probably be found to provide the most effectual means of securing their modification. Experience goes to prove that passing on an inconvenience to others in a better position to make their influence felt is always sound policy, as witness what happens when railway workers make their protest by rigid adherence to rules and regulations. That correspondence of Mr. Skinner with the Home Office (*C. & D.*, December 19, p. 863) shows exactly the course which ought to be pursued. Insistence upon prescribers complying in every instance with the strict letter of the law will soon provide some alleviation of the chemists' sufferings under the D. D. Regulations, unless I am very much mistaken regarding the attitude likely to be taken up by the British Medical Association when its members begin to make a fuss. So far we have lacked any support from the medical profession in contending with the outcome of freakish international deliberations; but when doctors realise that they must take so much extra trouble, and disclose in prescriptions the names of all "dangerous" drugs they wish to prescribe, there may be another tale to tell.

Pharmacy in the Army

remains as it was, and your report of the miniature debate on the subject in the House of Commons (*C. & D.*, December 12, p. 825) does not lend any support to the views of those who think that soldiers should not be allowed to receive medicine unless it is dispensed by or under the supervision of pharmacists who are commissioned officers. Curiously enough, the current issue of "The Script" contains a reprint of a letter published in the *C. & D.* nearly sixty-three years ago, the writer of which directed attention to the self-same problem that is vexing the minds of Messrs. Peek, Poucher and others to-day. Nothing came of the agitation at that time, and I fear it is only the most inveterate optimists who expect the War Office or the Army Council to be moved to action now.

Mr. Briggs's Disclaimer

is welcome, and his explanation (*C. & D.*, December 19, p. 881) quite clears him from any suspicion of lending support to the too prevalent idea that the Pharmaceutical Society may properly delegate its functions to another body. This is all the more gratifying because Leeds pharmacists are usually so decided in their views about the Society's duties, and intolerant of outside interference. It is more gratifying still to find that Edinburgh pharmacists labour under no misconception as to where the responsibility lies for protesting against undue interference with the conduct of their business. Your report last week (p. 862) of the proceedings at Edinburgh, when two very pertinent resolutions were passed, gives a healthy reassurance on the point whether Scottish pharmacists meant to submit without protest to all the dubious restrictions on their liberties as professional men. If the Council of the Pharmaceutical Society ignores or shelves the Edinburgh resolutions, and the Retail Pharmacists' Union continues to say ditto to the Society, or rests content with acting on occasion as its deputy, the time may arrive ere long when there will be a movement to form a pharmaceutical defence union, the objects of which shall be to stimulate the Pharmaceutical Council much as the Medical Defence Union stimulates the General Medical Council.

Price Protection

is good in itself, as a general rule, for everyone concerned; but the means of securing it are often open to criticism. One of your correspondents (*C. & D.*, November 7, p. 672) refers to ambiguous wording in a P.A.T.A. agreement form, and it is not surprising that he appears doubtful whether it is the interests of retailers or wholesalers which are specially safe-

guarded by the terms of the agreement. There can be no question that it is the wholesalers' section of the P.A.T.A. which benefits most by P.A.T.A. restrictions and arrangements generally. In all cases the wholesalers' rate of profit is strictly maintained. Though the retailer's profit may be diminished when a particular article is put on the P.A.T.A., it will usually be found that the wholesaler's profit is not reduced. A similar position exists when price cutting occurs.

The Baleful Mistletoe,

as it was called by Shakespeare, is to-day treated with a familiarity and regarded with an affection that would, perhaps, have outraged the sentiments of our ancestors, who looked upon it as a mysterious plant possessing properties of magical import. Its origin as a parasite upon trees was so obscure that Bacon, Sir Thomas Browne and Gerard accepted the general notion that it was not produced from a seed, and it appeared to them, in the words of Browne, that "they surely speak probably who make it an arboreous excrescence, or rather super-plant, bred of a viscous and superfluous sap which the tree itself cannot assimilate." On the other hand, there were many who believed that the seed was dropped on the trees in the excrement of birds. In this latter notion may be found the derivation of the name from the old English *miseltan* from *misl* or *mist*—dirt and *tan*—a twig. Along with this should be considered the name of the mistle-thrush as one of the principal agents in the process. The operation, however, is carried out by the scraping of its beak on the tree's bark, whereby the seed becomes attached with the viscid contents of the mistletoe berry. Prior suggests that the first element of the word is *misl*—different, because the plant is so unlike the tree upon which it grows.

The Legends of the Mistletoe

would be well known to Shakespeare when he coined his epithet. Perhaps the one uppermost in his mind was that associated with the exclusion of mistletoe from churches, namely, the tradition that it furnished the wood for the Holy Cross, for which reason it was degraded from being a fine forest tree to being a mere parasite. In Brittany it is called the *Herbe de la Croix*. The objection which many of the clergy have had to its presence in church decorations has arisen from the part which mistletoe has played in the ritual of pagan cults and the superstitious value which has attached to it as a defensive agent against evil spirits. It is noteworthy to what an extent this prejudice has been carried. Friend says that he has known of only one instance in which a representation of the plant is to be found in church decoration, and that is a carving upon one of the tombs in Bristol Cathedral. Another legend tells of the killing by Höder of Balder the Good, which beautiful Norse saga is well known through Matthew Arnold's fine poem. The insignificant mistletoe, which was too feeble to be asked to take the general oath not to harm the effulgent god, became the instrument of woe. Here also was (shall we say?) a penalty. The resurrected god, we are told, committed the mistletoe for the future to the goddess of love to keep, so that henceforth everyone passing under it should receive a kiss, and thus it became the emblem of love and not of death. The traditions regarding its magical virtues are so many and so widespread that it would take a book to recount them all. How largely it bulks in folklore may be gauged from its having been thought to be the "Golden Bough." Its medicinal virtues have been reckoned to be equally universal. Pliny called it the "all-healer" ("*omnia sanantem*"). In England it was used for epilepsy down to the eighteenth century. It was the most extensively used remedy for all wounds made with cutting instruments. To-day, I suppose, its only reason for finding a place upon a pharmacist's shelves is that it is a good basis for birdlime. But its history, woven into the daily life of our ancestors, and its presence in our dwellings at this season, revive in us the romance of personal love alongside that larger love for all mankind of which Christmastide is now the almost universal celebration.

IMPORTANT
NOTICE!

Schering

IMPORTANT
NOTICE!

CLINICAL PACKAGES.—It is intended—for a trial period, at any rate—to supply clinical packages to the wholesale and retail trades, either for pharmacists' own use in dispensing, or for the execution of orders which may be received from hospitals, asylums, etc.

Clinical packages at present on the market are:—

ATOPHAN tablets ($7\frac{1}{2}$ grs.) bottles of **100 and 500.**
VERAMON tablets (6 grs.) bottles of **100 and 250.**
MEDINAL tablets ($7\frac{1}{2}$ grs.) bottles of **100 and 250.**

Orders from retail pharmacists will, if desired, be executed direct and invoiced through their usual wholesale house.

SCHERING LTD. 3 Lloyds Ave., London, E.C.3
'Phone: Royal 7580. Tele.: "Schierophia, Fen, London."

'PANOPEPTON'

AN IDEAL FOOD FOR INVALIDS

'PANOPEPTON' is sustaining, palatable and acceptable to the most delicate stomach.

Supplied in 12-oz. bottles.

Originated and Manufactured by—

FAIRCHILD BROTHERS & FOSTER
New York and 65 Holborn Viaduct, London, E.C.1.

Agents—

BURROUGHS WELLCOME & CO.
London Sydney Cape Town



ROBINSON'S
of **CHESTERFIELD**
for **CARDBOARD BOXES**
ROUND · OVAL · SQUARE · FOLDING

ROBINSON & SONS, LTD. · CHESTERFIELD & LONDON

Finest Medicinal
Non-freezing
COD LIVER OIL

"ISCO"

BRAND

**ISAAC
SPENCER & CO**
(ABERDEEN) LTD
ALBERT QUAY
ABERDEEN

Tel.: 3304, 3365 & 3968.

Telegrams:
"Extractor, Aberdeen."

Samples and Quotations
sent on application.

XL ALL

XL ALL Liquid Nicotine Insecticide
Wash, For Spraying Plants and Fruit Trees
XL ALL Nicotine Vaporising Fumigator.
Either in Liquid or Oake
ALL USUAL WHOLESALEERS.

THE new regulations mean that enquiries for these Nicotine Preparations will now come to you.

Mrs. **G. H. Richards Ltd.** 234 Boro' High St. London. S.E.1
'Phones: HOP 1098 & 376. Wires: "Vaporizing, Sedist, London."

STOCK THE GARDENER'S FAVOURITES

The Last Word in Simplicity.
The C. & D.

STOCK-TAKING PAD

Forty-one printed pages, arranged alphabetically in double columns. Handy size, $7\frac{1}{2}$ in. by 9 in.

Will halve the labour of taking stock.

Price 2/6, post free

THE CHEMIST AND DRUGGIST

(PUBLICATIONS DEPARTMENT)

42 CANNON STREET - LONDON, E.C.4

"QUINTA REAL" PORT
ELEGANT OLD TAWNY

BURROUGH'S GOLD INVALID PORT
AUSTRALIAN WINES. MEDAL GINGER WINE
"DONZARDO" SHERRY.

J. BURROUGH Ltd. 1 Cale Distillery, LAMBETH, S.E.11

Editorial Articles

A Year of Portents

THOUGH the year 1925 has not been particularly eventful for British pharmacists, it has had its thrills and shocks. Quite early in the year there was the mild excitement of the Pharmaceutical Society's new by-laws. Later, the effects of the Dangerous Drugs Acts and the Labelling of Poisons Order manifested themselves more plainly, culminating at the time of writing in a general feeling of exasperation that practising pharmacists should have been let down so badly. Northern Ireland has secured its Pharmacy and Poisons Act, which sets up the new Pharmaceutical Society of Northern Ireland, and promises to become an example for proposed new British legislation. One feature of the Pharmacy and Poisons Act (Northern Ireland), 1925, which must commend itself particularly to the officials of the Pharmaceutical Society of Great Britain, is the provision it makes for an annual licence for practising pharmacists. This is necessary in Northern Ireland owing to the comparatively small number of persons who can be registered. Apart from this, the new Act has many good points, and it is not surprising that it should be the subject of careful study by all who are concerned about amendment of the British Charter and Pharmacy Acts. In the Irish Free State the parent Pharmaceutical Society is preparing for fresh legislation. Mr. A. T. Ferrall, who has been Registrar and Secretary for many years, has retired on pension, own to ill health. Regulations made under the Dangerous Drugs Acts have proved to be more onerous than they were at first thought to be, particularly in the light of their latest semi-official interpretation, whilst the labelling of preparations containing scheduled poisons is causing trouble and expense to everyone owning a pharmacy. Meanwhile business has been none too good, the contrast in that respect with earlier years since the war being almost more marked than during 1924, with its short and wet summer. This year the summer was fine and prolonged, but the British Empire Exhibition, at Wembley, reaped the benefit and continued to divert much cash from chemists' tills. The exhibition this year proved a greater success than was anticipated, but only because of the inclusion in its attractions of the wonderful tattoo and the gambling element involved in the giving away of a hundred pounds daily as a prize or prizes for

guessing the number of people likely to be present on the next day. Medical, chemists', grocers' and other exhibitions have also met with a considerable measure of success, but industrial disturbance and widespread unemployment have done their worst to damage trade. In one respect chemists have had increased business, the number of prescriptions dispensed for insured persons being largely in excess of the number in any previous year. This, however, is unquestionably the least profitable part of the chemists' business, and an excess of it on the existing unremunerative terms is not to be desired. The **Pharmaceutical Society's new by-laws** were the subject of keen controversy during the few weeks allowed for their consideration by the members, and they would undoubtedly have been rejected but for the undertaking being given that regulations necessary to give the by-laws effect would be submitted to the branches before they were finally adopted. This concession served the desired purpose, but it proved to be valueless except as providing opportunities for explanation of the regulations. Having once passed the by-laws the members found that they had no further voice in the matter, and all they were permitted to do was to ask questions which received answers of a more or less satisfactory nature. Curiously enough, the particular point which seized the imagination of the members during the controversy was the proposed infringement of the right of a chemist and druggist to proceed to the Major examination. Judicious tactical rearrangement of the educational scheme in this respect sufficed to induce the members to vote away their control, not only for the time being, but for all time thereafter. Now that the by-laws and regulations are in operation it is plainly seen that there were two main objects to be attained—the placing of further controlling power in the hands of the Privy Council, and the sharing of our educational arrangements with university authorities. The standard for the qualification of pharmaceutical chemist is now fixed by London University, indirectly, perhaps, but none the less effectively. Whether there will be many pharmaceutical chemists registered in future beyond those who secure a university diploma remains to be seen. All the excitement had subsided by the date of the **Society's annual meeting**, the attendance at which was quite ordinary. A discussion on revision of the Charter was initiated by Mr. W. M. Tims, and disclosed a new humorist in the person of Mr. S. Lamplough Scott. It ended in the passing of an innocuous resolution which was subsequently dragged into the limelight once more at the meeting of delegates held at Glasgow during conference week, and may probably remain on record as representing the utmost that was done in the matter. There was the usual optimistic speech by the President, Mr. F. P. Sargeant, whose official swan-song it proved to be, as he was not fated to be re-elected. The financial statements submitted showed a big balance in hand, largely as the results of payments on account of the Codex. In addition to this, the list of members had again established a record, and, so far as external appearances go, the Society is still in a very flourishing position. Signs of inward vitality were, however, as much lacking as a year earlier, and "protection of those who carry on the business of chemists and druggists" seems in danger of being overlooked by the Council of the Society and its officials. As a matter of fact, bureaucracy is triumphant so far as the interests of chemists and druggists are concerned, and no determined stand against encroachment on our privileges is being made. Two new organisations made a start during the year. The **League of Ex-Service Pharmacists** has set out, with an official blessing, to endeavour to do what the Council of the Society admits failure to do—to convince the War Office of the desirability of improving pharmaceutical service in the Army

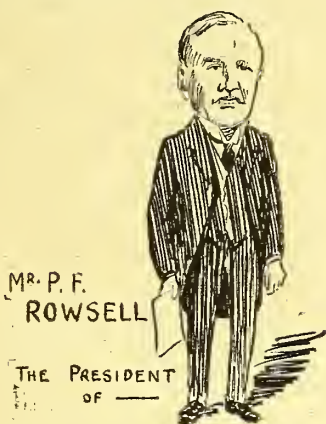
and recognising the pharmaceutical qualification. The **Chemist-Analysts' Institute**, with Mr. Anthony J. Preston as its first President, proposes to make good other shortcomings of the Society, in the matter of recognition of the pharmacist's ability to act as an analyst. What appears to be even more necessary is a guild of non-proprietor pharmacists, membership of which shall be restricted to duly qualified persons who do not own pharmacies. Such a body might easily include most of the "live" men in the craft, and could do more for the advancement of pharmacy than other existing organisations, because free from the many ties and ramifications which hamper the latter. At the June meeting of the Society's Council, Mr. P. F. Rowsell, Exeter, was elected President, with Mr. Bilson, Bournemouth, as Vice-President, while Mr. Guthrie succeeded the latter as treasurer. The Council election had excited somewhat more interest and resulted in the displacement of Mr. H. M. Lloyd, Merthyr Tydfil, by Mr. W. J. Beardsley, London. Sir William Glyn-Jones, the Society's secretary and registrar, was absent from England for some weeks, having visited Canada and the United States to investigate the conditions of the drug trade there. After a second visit in November, he returned to announce his acceptance of the position of chairman of the Council of a proposed Canadian Proprietary Articles Trade Association, and he was granted further leave of absence to enable him to take up the duties of the office early next year. A decision by the Council to establish a **physiological laboratory** was followed by the appointment of Dr. J. H. Burn as director, at an annual salary of £1,200, with an assistant at a salary of £350-£500. This new development will involve large expenditure, and the Medical Research Committee is to have a voice in the arrangements. In this connection it is noteworthy that preliminary arrangements have been made for the production of a new British Pharmacopœia, in which it is possible the example of the new United States Pharmacopœia may be followed, with its introduction of biological assay processes for certain drugs. At the second International Conference for the Biological Standardisation of Medicaments, convened by the Health Committee of the League of Nations, proposals were adopted in respect of various medicaments; and international pharmacopœial standards for potent preparations, as adopted at a conference held in Brussels last September, were published in the *C. & D.*, October 24. The **British Pharmaceutical Conference** was held at Glasgow, where the local pharmacists had arranged a programme that well reflected Scottish organising ability and hospitality. There was a large attendance, and all the reports received echoed general satisfaction with the arrangements. In the unavoidable absence of the Lord Provost, the Conference was welcomed by ex-Bailie W. B. Smith, whose speech was most complimentary to pharmacists and was enlivened by dry humour. Mr. Edward White, as chairman, devoted his opening address to the subject of "Recent and Coming Developments in Pharmacy," concluding with the suggestion of an Empire Pharmaceutical Conference, or—more ambitious still—of one including the United States of America. Several of the papers read reflected a high level of research, and there was evidence that the Conference is again in favour as an occasion for publishing results of investigations connected with pharmacy. There was a many-sided social programme, with the festive spirit well pronounced, and good weather favoured the excursions. At the delegates' meeting held in Glasgow during Conference week it was resolved, on the motion of Mr. F. P. Sargeant, that the Council of the Society be recommended to invite all the branches to discuss the subject of the Charter and Pharmacy Acts, with a view to considering what steps, if any, should be taken for their amend-

ment. There was also an inconclusive discussion on the Dangerous Drugs Acts and Regulations. In October the new session was formally opened at the Society's London headquarters, when Dr. Winifred Cullis, O.B.E., gave a brief but excellent address on "Pharmacy and the Allied Sciences." Her theme was the evolution of pharmacy and the study of drugs, with particular reference to colloidal therapeutic agents. The **Retail Pharmacists' Union** has continued to pursue a steady course of usefulness, without anything very remarkable to record respecting its manifold activities. Its business training examination was passed by seventeen students, including three ladies. Agreement of the R.P.U. with the Ministry of Health on the subject of the testing of dispensing has been followed by the coming into operation of the Ministry's scheme. The new drug tariff came into force on February 1, after revision by the Ministry of Health in consultation with the Retail Pharmacists' Union, and on October 1 additions to the list of prescribed appliances became official. Published reports of inquiries and appeals, in cases of alleged breaches of agreements with Insurance Committees, showed that offences usually arose from carelessness or lack of supervision, want of tact in dealing with customers, or inexcusable loss of temper. But cases in which chemists did not study scrupulously to observe the terms of their agreements were rare exceptions, and the pharmaceutical service generally throughout the country continued to be of a particularly high standard. It is to the credit of the Retail Pharmacists' Union that it continually impresses upon chemists the desirability of providing the best possible service for insured persons. Officers of the Union have given evidence before the **Royal Commission on National Health Insurance**, as also have Mr. L. G. Brock, of the Ministry of Health, and Sir William Glyn-Jones. Mr. Brock's evidence dealt largely with the question of arranging drug-tariff prices and was not unfavourable to chemists, while Sir William Glyn-Jones advocated the abolition of Insurance Committees, the utility of which he questions. Meanwhile, Insurance problems have been fully re-stated in our columns, with the object of keeping readers well informed and giving a useful lead where necessary. It is noteworthy that there has been a reduction in the amount of chemists' accounts for medicines supplied to insured persons during the current year, partly due to a slight fall in the average cost of drugs, but more markedly in certain districts as a result of the activity of regional medical officers. While the average reduction in payments has not been great, some chemists have experienced a marked reduction in receipts and report lower total payments for a largely increased number of prescriptions dispensed. At the same time, the average dispensing fee has not varied appreciably, so that smaller total payments show what is apparently a higher rate of gross profit. An extra burden has been cast upon chemists who dispense for insured persons, owing to the operation of the Dangerous Drugs Acts and Regulations. Whereas formerly it was not necessary to copy Insurance prescriptions ordering poisons, it is now essential that those affected by the D.D.A. regulations should be duly recorded, though no provision is made for remunerating chemists for this extra work. The Regulations made under the Dangerous Drugs Acts have continued to be a source of much trouble to the trade, and the **Dangerous Drugs Act, 1925**, promises to intensify this trouble. Coca leaves, Indian hemp and heroin are the subject of fresh restrictions, and there is a prospect of all preparations containing heroin, in however small proportion, having to be treated as "dangerous" drugs. This is the result of a concession to the United States, where over-indulgence in the use of heroin has led to a

demand for its total suppression. Permanent inspectors have been appointed under the Dangerous Drugs Acts, and the Chief Inspector, Mr. A. H. Anderson, has expressed very decided views regarding the interpretation of the regulations. In an address to the West Ham and District Pharmacists' Association, he went so far as to state that any contravention of the Pharmacy Acts will render a chemist liable to penalties under the Dangerous Drugs Acts, and he also gave utterance to startling views respecting limitation of chemists' business activities. A strong protest against these statements has been recorded by Mr. J. Rutherford Hill, Resident Secretary in Scotland of the Pharmaceutical Society, and it remains to be seen whether practising pharmacists in Scotland will take the lead in protesting against unreasonable interference with our business. Further trouble for pharmacists is associated with the **Labelling of Poisons Order**, which comes into force on January 1, 1926. During the past year the *C. & D.*, as an independent authority on poison law, has been much consulted about the labelling of preparations containing scheduled poisons, and in this respect chemists should now have their house in order. Other **C. & D. activities** have included continuation of the much-appreciated *Commercial Compendium*, the *Retail Price List* now commencing its fifth year of publication, and the quarterly review of the *Progress of Pharmacy and Allied Sciences*. An entirely new series of articles on modern physico-chemistry, by Mr. W. A. Whatmough, has filled a gap for those seeking advanced instruction in this borderland subject. We have dealt, in the series on "Further Factors of Life," with information of especial value to practising pharmacists, and we have also summarised the new Roumanian, Greek and United States Pharmacopœias. Poisons law has been the subject of various editorial articles, our Poisons Cards have been revised as required, and in every way the *C. & D.* has done what was possible to make clear to its readers what the law requires of those who dispense and sell poisons and preparations containing them. Older *C. & D.* "services" have been continued, newer ones have become established, and no effort has been spared to maintain the position of the *C. & D.* itself as a complete journal for the drug trade. We shall deal in next week's issue with further developments. The year's obituary has been a heavy one, with more than the usual proportion of well-known names in the list. Among the more prominent of those who have passed away were two past Presidents of the British Pharmaceutical Conference—Mr. T. H. W. Idris, London, and Dr. Charles Symes, Liverpool, who was for many years a member of the Pharmaceutical Society's Council. Dr. H. Trentham Maw, chairman of S. Maw, Son & Sons, and Viscount Leverhulme were both benefactors of our craft. Other prominent names are those of Mr. Horace Davenport, London; Mr. John Lorimer, London; Mr. James MacKenzie, Edinburgh; Mr. A. E. Tanner, London, an old-time examiner; and Dr. W. Wynn Westcott, of "Extra Pharmacopœia" fame. Other names singled out from a much longer list are those of Mr. Henry Ball, Southport; Mr. E. Wightman Bell, Spalding; Mr. J. H. Bradwall, Sheffield; Mr. C. W. Brumwell, London; Mr. J. R. Cave, Southport; Mr. Andrew Craig, Aberdeen; Mr. John Cruickshank, Bucksburn; Mr. J. Wellesley Douglas, London; Mr. T. R. Elliott, Belfast; Mr. A. W. Greaves, Chesterfield; Mr. C. D. Hart, Derby; Mr. E. A. Holloway, Southend-on-Sea; Mr. J. Moir, Glasgow; Mr. J. W. Nicholl, Clones; Mr. Arthur Peake, Earlestown; and Mr. Arthur Weddell, Colchester. Particular reference must also be made to the loss of our valued colleague, Mr. C. C. Bell, who, as "Xrayser II," interested readers with his observations and reflections for so many years, and Mr. E. T. Pearson, who represented the *C. & D.* as its Liverpool correspondent.

Pictorial Review of the Year

By Granville Shaw, Ph.C.

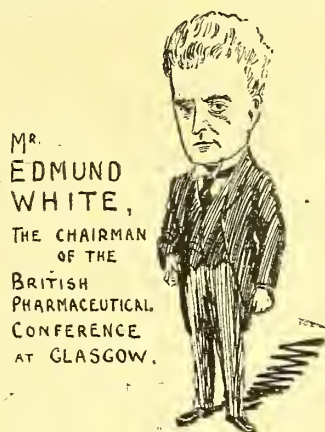


MR. P. F. ROWSE

THE PRESIDENT OF —



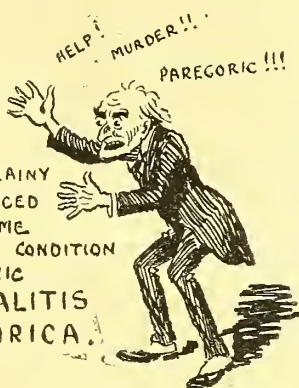
THE PHARMACEUTICAL SOCIETY.



MR. EDMUND WHITE,
THE CHAIRMAN OF THE
BRITISH PHARMACEUTICAL
CONFERENCE AT GLASGOW.

THE YEAR 1925 HAS GIVEN US THE USUAL CROP OF ACTS, ORDERS AND PRONUNCIAMENTOS, DESIGNED TO PROTECT THE CITIZEN FROM THE CRUEL AND MALIGNANT PHARMACIST,

WHOSE VILLAINY HAS PRODUCED AT THE HOME OFFICE A CONDITION OF CHRONIC ENCEPHALITIS PAREGORICA.



THE PRIME MINISTER OF ENGLAND CANNOT BUY A DRACHM OF LAUDANUM FROM HIS PHARMACIST, BUT A LUNATIC CAN GET FROM A SEEDSMAN ENOUGH ARSENIC TO KILL EVERY MAN AND CHILD IN THE HOME OFFICE.



THEN WE ARE TOLD IN CLASSICAL LATIN THAT THE LAW DOES NOT CONCERN ITSELF WITH TRIFLES!

NO WONDER GLYN-JONES IS GETTING KEEN ON CANADA!



HERE ARE A FEW OF THE VARIOUS INSPECTORS WHO KEEP A WATCHFUL EYE ON OUR NEFARIOUS ACTIVITIES



FOOD AND DRUGS INSPECTOR



WEIGHTS & MEASURES INSPECTOR



N.H.I. SCRIPTS INSPECTOR



POISON BOOK INSPECTOR



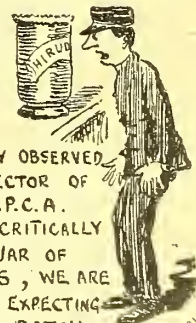
DAANGEROUS DRUGS INSPECTOR



DITTO (DE LUXE)



EXCISE INSPECTOR



HAVING RECENTLY OBSERVED AN INSPECTOR OF THE R.S.P.C.A. GAZING CRITICALLY AT OUR JAR OF LEECHES, WE ARE SHORTLY EXPECTING ANOTHER BATCH OF HOME OFFICE REGULATIONS!

Granville Shaw 1925

Labelling Proprietary Articles

THE following particulars have come to hand since we published the list in the *C. & D.*, December 19, p. 871:—

ALLEN & HANBURY, LTD., Bethnal Green, London, E., announce in their advertisement that their specialities containing scheduled poisons have been correctly labelled for many years. In regard to Vapo Cresolene, a supplementary label giving the proportion of cresols will be sent on application. All new supplies are correctly labelled, an indication to that effect being given on the carton.

AYRTON, SAUNDERS & Co., LTD., Liverpool, guarantee that all products issued will be correctly labelled in accordance with the Order, and that for the greater facility of the pharmacist the outside containers will also be labelled.

BROWN'S BRONCHIAL MIXTURE.—Mr. R. E. Brown, Brighton, sends us a label of this preparation to show that it is correctly labelled with the proportion of poison it contains.

FORSTER'S FENOLIN FLUID.—Hall, Forster & Co., Ltd., Temple Street, Newcastle-upon-Tyne, will be pleased to forward slip labels to affix to the bottles and cartons upon request.

HINKSMAN'S ASTHMA RELIEVER, CIGARETTES AND SMOKING MIXTURE.—Supplies sent out on and after December 31 will be correctly labelled. Supplies of supplementary labels will be sent by Hinksmann & Forrest, Ltd., Carlisle, to chemists holding stock.

KAY'S COMPOUND ESSENCE is labelled in accordance with the Labelling of Poisons Order, these details having appeared on all packings for many years past.

LEATH & ROSS, homœopathic chemists, 317 High Road, Brondesbury, London, N.W.6, give in an advertisement in this issue a list of homœopathic medicines which are affected by the Labelling of Poisons Order. Any stock which chemists have should be returned, so that the supplementary labels can be affixed on the bottle and carton.

A. F. SHERLEY & Co., LTD., 18 Marshalsea Road, London, S.E.1, state that three of their medicines—condition and nerve cure tablets, cough tablets, and gastrine tablets—are affected by the Labelling of Poisons Order. All supplies of these which have been sent out during the past three weeks have been labelled in accordance with the Order. New labels giving the necessary information for affixing to stocks held by retailers will be forwarded on application, or, if preferred, stocks may be returned to Messrs. Sherley for relabelling.

B. C. TIPPER & SON, Birmingham, intimate that their veterinary preparations containing statutory poisons sent out on and after January 1 will be labelled in accordance with the Labelling of Poisons Order.

TOWLE'S CHLORODYNE (A. P. Towle & Son, Manchester) are prepared to exchange old stocks for new, labelled for 1926, either direct, or through the wholesale houses. Or to supply any number of labels asked for, for affixing outside stocks in hand.

Not Affected by the Labelling Order

D. D. D. Prescription.
Roche's Embrocation.
Tipper's Cows' Relief and Vitalis.
Whelpton's Pills, Ointment and Embrocation.

Coming Events

This section is reserved for advance notices of meetings or other events. These should be received by Wednesday of the week before the meetings, etc., occur.

Tuesday, December 29

Royal Institution of Great Britain, 21 Albemarle Street, London, W., at 3 p.m. Juvenile lectures. Sir William Bragg on "Old Trades and New Knowledge: The Trade of the Sailor." To be followed on December 31 by "The Trade of the Smith"; January 2, "The Trade of the Weaver"; January 5, "The Trade of the Dyer"; January 7, "The Trade of the Potter"; January 9, "The Trade of the Miner."

Thursday, December 31

Pharmaceutical Society of Great Britain (North Metropolitan Branch), Midland Grand Hotel, at 7.30 p.m. to 12.30 a.m. New Year's party and dance. Fancy, morning or evening dress. Tickets (7s. 6d. each, supper included). Applications for tickets to Mr. Skinner, Royal Northern Hospital, N., should be made before December 25.

LIVERPOOL CHEMISTS' ASSOCIATION.—The annual children's party will be held in the Royal Institution, Colquitt Street, on January 6, 1926, from 4 p.m. till 9.30 p.m.

Associations' Winter Session

Ealing.—The monthly meeting of the Ealing Pharmacists' Association was held on December 8, the President (Mr. R. F. Edkins) in the chair. The meeting opened with a discussion on the supply of baby foods from clinics. Mr. W. T. Stoyke produced a letter from the Borough Council of Acton, in answer to a complaint of his, in which they stated that nothing was supplied until the circumstances of the person were thoroughly investigated. It was resolved to write to the Borough Council and ask them if a definite scale relating to the circumstances of persons receiving these articles was in operation. Mr. Hugo Wolff, from the manufacturers' point of view, said if the Association had a concrete case he would help them in the matter. Mr. Wolff also gave some interesting information on the work of the Middlesex Insurance Committee.

Edinburgh.—The Edinburgh Chemists', Assistants' and Apprentices' Association held a meeting recently. Mr. Eric Knott, Ph.C. (President), in the chair. Mr. H. Stout, Ph.C., gave some *Notes on Materia Medica*, explaining that the pharmacist was interested only in that aspect which was described under the name "Pharmacognosy," dealing with the source and preservation of drugs and such characters as enabled the pharmacist to recognise them and to determine their quality. The active proximate principles of drugs were classified as alkaloids, glucosides, and neutral principles. The word "alkaloid" was at the moment a subject of discussion, because the word "vegetable" had been eliminated from the Poison Schedule so that all alkaloids, synthetic or otherwise, were included. They had a rough way of describing alkaloids as basic substances like an alkali which formed salts with acids, but this might not suffice in the light of modern organic chemistry. The active constituents may also be oils, resins, gum resins, oleo resins, or balsamic resins. The communication was fully illustrated by typical specimens and samples of the various active principles. Mr. Peter Boa, Ph.C., then read a paper on *Some Orange Products*. Mr. Boa said the sweet orange, the most familiar, was introduced from the East by the Portuguese, who cultivated and improved it, and hence it was called the Portugal orange. It was cultivated wherever the climate was suitable, notably in the West Indies, South Africa, and Florida. The essential oil from the peel was used for flavouring, and a tincture from the fresh peel in the preparation of medicinal elixirs. The oil from the flowers, known as Portugal neroli, was less esteemed than that from the bitter orange. To the pharmacist the bitter orange was the more important, both the fresh and the dried peel being used. The oil from the flowers constituted the more highly valued neroli of commerce. The water remaining in the still after removal of the neroli constituted the official orange flower water so extensively used as a flavouring agent. Oil of petit-grain, now distilled from the leaves, was originally distilled from small immature oranges, and hence its name. The flavour of orange peel oil was distinctly improved by the addition of a little acid, such as citric acid, to the preparation. Orange flower water lent itself to the flavouring of pure sweets, and, like vanilla, it gave the best results when present in small quantity. Synthetic nerolis were of uneven value, but some were very fair equivalents of the natural product. The talk was fully illustrated by a series of samples of the various substances referred to.

Sheffield.—At a meeting of the Sheffield Pharmaceutical and Chemical Society, held on December 16, Mr. F. Hindle presiding, Lt.-Col. Barron, R.A.M.C., gave an interesting lecture on *Foods and Dietetics*, showing that it was not until Liebig's time that any definite chemical standard was obtained. It was indicated by statistics that the feeding in workhouses resulted in fewer cases of appendicitis than in ordinary civilian life. The lecturer informed the meeting that he personally took cod-liver oil each morning for its vitamin value. A vote of thanks was accorded Dr. Barron, on the motion of Mr. E. Preston, seconded by Mr. A. H. Culverhouse, and supported by Mr. John Austen, who attributed his very good health to the taking of Italian tincture of iodine each morning.

Modern Physico-Chemistry and its Pharmaceutical Applications

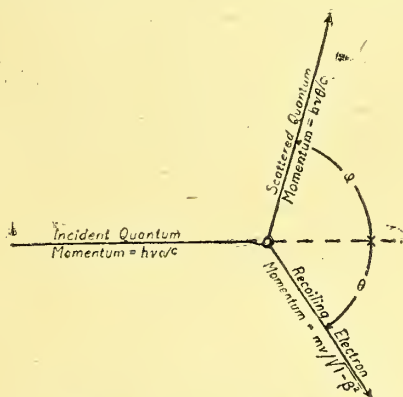
By W. A. Whatmough

XXV. The Flow of Radiant Energy—V.

IN these articles radiation has been discussed as a *flow* of radiant energy to illustrate that it is possible to adumbrate any idea of a corpuscular structure of light such as is embodied in the "frequency" of light, being the number of "corpuscles (of ether)" passing a given point in a period of one second. In the previous article of the series it was shown how ether pulses flowing along a "tube of force" (Fig. 29, Article XXV) simulated the "frequencies" met with in the "electromagnetic" transmission of energy. Below are given reasons why this energy flow is directed in space as a light ray. The concept of the flow of energy as consisting of an ethereal flux has distinct advantages, viz. :—

(1) It permits a distinction between the motion of flowing ether forming a light ray compared with the relative stillness of the surrounding space.

(2) Ethereal pulsations adequately account for vibration frequencies of light rays, and render unnecessary the suggestion of "atomism" of space inherent to "corpuscles" of ether.



QUANTUM EXPLANATION OF THE COMPTON EFFECT

Fig. 30.—An x-ray of light (with momentum $h\nu/c$) hits an electron which recoils (at an angle θ) and removes energy from the light ray (whose momentum becomes $h\nu'/c$), thereby reducing its frequency by an amount (equal to the vector difference between the path of the primary and secondary rays) regarded as consisting of directed units or quanta of light.

(3) Pulsating flows of ether would accentuate or obliterate one another according to consonance or disparity in their phases of pulsation, and cause phenomena such as the "interference" of light. Indeed, a pulsating fluid flow presents both longitudinal and transverse "waves" of motion, which fact in itself removes the objection that directed beams of light cannot cross and interfere with one another.

(4) The inverse square law of radiation holds good equally for directed light rays as for light waves spreading from a single source. In the former case, the number of darts passing through a unit area would be inversely as the square of the radius of the imaginary spherical shell of which it is supposed to form part.

(5) The idea of an ethereal flux embodies in itself a flow of energy which *pushes* along particulate matter in its path (see Article III). This agrees with the experimental fact that ethereal radiation exerts a "pressure" on matter.

(6) Matter accordingly possesses a definite motion in space according to the ethereal flux in which it is situated. Experimental results prove that there is a close co-ordination in the interaction of light rays and atomic vibration such as cannot be explained by chance. [This condemns the statistical mechanics of the kinetic theory of gases, which presupposes atoms flying at random through space.]

(7) Equality of action (of ethereal radiation) and reaction (of matter) replaces assumptions of frictionless ether and perfectly elastic collisions of gaseous molecules, which the Compton effect (see below) proves to be untrue.

By the single assumption that ether in motion possesses momentum and has different properties from ether at rest, it is possible, for the first time in the history of science, to contemplate an ending of the endless assumptions regarding the subdivision of space; while by regarding matter as rotational ether (thereby possessing inertia), all manifestations of energy unite into relative motions of space in and through space. Already it has been shown that the phenomenon of streaming ether is paralleled in the fluid flow of gases and liquids, and it would seem that the presence of molecules of matter only increases the resistance to motion by introducing additional dead weight or inertia. The very existence of a pressure denotes a resistance to flow; and radiant energy is known to exert a pressure upon matter which is proportionate (like the flow of a gas or a liquid) to the energy-crossing unit area. Lastly, there is also direct experimental evidence that action and reaction hold also in regard to this interaction of ethereal radiation with electronic matter. The energy required to eject an electron from an atom has a threshold value, well represented by the energy of an ether jet (Article IX); and it is significant that in photo-electric emission of electrons it is the frequency (or energy) of the individual light ray, and not the intensity of illumination (i.e., the number of light rays), which determines whether or not an "electron" is knocked out of atomic matter.

THE COMPTON EFFECT

Finally, in the Compton effect, or "softening" of light rays, when "scattered" by electronic matter, there is conservation of momentum (Newton's action and reaction) in the absorption and emission of radiation. The scattering or degradation of radiant energy occurs with all forms of radiation (Article XXIII, Fig. 26). Its quantitative detection depends upon the modification of high-frequency light rays (x-rays) by their interaction as discrete units of radiation with individual electrons. Professor A. H. Compton, who determined the quantitative character of this effect in 1923, considers that it is not unreasonable to suppose that the incident "quantum" of light has a diameter about equal to that of a wave-length (i.e., the distance between two pulses, cf. Article XXV). Hence a light wave on a silver mirror would be many times the distance between two "free" electrons, and thus would be reflected with insignificant energy loss by a group of electrons, and the change in vibration frequency would be negligible. With x-rays (from a molybdenum target) scattered by a carbon radiator, the diminution in frequency or softening of the secondary rays is marked and increases rapidly with the angle of scattering. Professor Compton finds (see Fig. 30) that the principle of conservation of momentum holds good as regards the energy of the incident ray and the energies of the scattered ray and the recoiling electron, just as if radiation bounced off the electron like one billiard ball bounces from another. The cloud chamber of C. T. R. Wilson (which reveals the tracks of rapidly moving electrically charged matter as water vapour) has been applied to the study of scattering of radiation. This provides direct photographic observation of the coupling between the direction of the effect of the scattered radiation and the direction of the recoiling matter. The "recoil electrons" appear as "fish" tracks, and those which start directly forward have longer tails than those which move through an angle. The tails also increase with the hardness of the x-rays. Whatever may be the eventual interpretation of these cloud expansion effects in terms of photo-electrons (scattered rays) and recoil electrons (which may equally likely be atoms), it has been definitely proved that their production is linked together in space and time when a light ray bumps against atomic matter. An electronic atom with a tail has already been utilised in Article XXI (Fig. 21) in connection with a mechanical explanation of the production of spectral radiation by an atom. It only remains to provide reasons why this radiant energy is emitted in a definite direction to complete the difficult task of linking up space with matter. Already (in Articles VII, XVII, and XXI) it has been explained why an elliptical (cam-like) electron rotating in space produces pulsations

by displacement of the surrounding medium. The forward edge of the rotating mass pushes along and carries forward this medium, which flows outwards and circulates back again if the medium itself is at rest. However, whenever the medium itself is in motion, there is produced a line of least resistance, which is naturally directed away from the direction of flow. Gear-wheel oil pumps and rotary air compressors work by trapping oil or air in their forward motion and pressing this on wards so long as a fresh supply is available. Also flow from the outlet occurs only when this offers a line of least resistance.

THE DIRECTION OF MOTION

Thus our fourth principle of energetics (Articles III and IV) guides us in regard to the direction of motion being that of the line of least resistance, and this accords with experience always. What this direction may be depends solely upon environmental conditions, which in actuality means the flow of ether locally—for all vibratory matter is separated by space, and atoms can only affect one another by radiant energy transmitted across space. In general, the inflow of energy to an individual particle (atom, or molecule, etc.) is inevitably one-sided, while the output of radiation can be in any "free" direction. Also any forward movement in ether flow makes room for further motion behind (Article XI), and this flow can be straight or curved according to local conditions. Since work is a circulation of energy (Article V), slow rotation means a short return path and a longer time for the medium

being deflected either by an electric field or by a magnetic field. The current conceptions of electrons and electricity are confusing and conflicting, and the relationships of electricity and magnetism to electro-magnetic radiation must be left over until the phenomena of ionisation have been dealt with. It is immaterial whether the energy of radiant rays is expressed in terms of frequency or wave length, since both these are defined arbitrary units (Article XV). It is interesting to know that this year the gap between electric waves and infra-rays has been eliminated, so that these range from 10,000 metres to one-fifth of a millimetre for "wireless" waves, and from 0.4 millimetre to 2 microns (thousandths of a millimetre) for heat rays. At the other extreme, penetrating rays of presumably cosmic origin have been observed, by Dr. R. A. Millikan, which can traverse six feet of lead and are a hundred times "harder" than the most penetrating x-rays known. Their shortest wave length is 0.0004 Angstroms—i.e., their frequency is ten million times that of ordinary light. The production of rays with such an enormous "quantum" is difficult to explain except upon some hypothesis such as annihilation of matter itself (Dr. J. H. Jeans), or synthesis of matter such as helium from hydrogen by the capture of an electron by a positive nucleus (Dr. R. A. Millikan). While such theories must remain speculative and contradictory for some time to come, it is *à propos* of the ending of 1925 to review below new views based upon experimental observation which have profoundly modified the trend of scientific thought this year. These bring out that the concepts appertaining to fluid flow of ether are real fundamental phenomena which can be observed in everyday experience, and do not require piling of assumption upon assumption.

(1) *A Drift of Ether* or relative motion of the earth and surrounding space has been detected by Dr. Dayton C. Miller. This motion increases with height, and Einstein himself states that if the results are confirmed the theory of relativity fails and "only the equivalence of inertia and weight remain." [Article VI predicted the error of Einsteinian geometry in "assuming that space remains still and does not resist the passage of a body." Relativity itself explains away the ether of space, and does not require its existence to be real.]

(2) *Ethereal Dynamics*.—Sir Oliver Lodge stated in November an hypothesis of a push force, because the "one thing that always gives repulsion without reference to sign of charge is radiation." Sir Oliver adds that our aim ought to be to explain quantum emission and absorption on dynamical principles, perhaps not ordinary dynamics but ethereal dynamics. [Article III explains push in terms of displacement. The fluid flow of ether as applied to origin of spectra in Articles VII to XIII and Article XV is ethereal dynamics, despite the statement that perhaps this "cannot be said to have been begun."]

(3) *A Law of Entire Equilibrium* has been announced by Dr. G. N. Lewison March, which Mr. R. C. Tolman later stated is the same as the principle of reversibility to the last detail formulated in various ways by several other scientists, including Einstein. [Article III, which preceded the above, includes a principle of the equilibration of energy of much wider generalisation, in that it introduces ethereal dynamics (see (2) above) by requiring "the ether of space as the concomitant of action and reaction of Newton's third law."]

(4) *The Failure of Quantum Atomic Models*.—Professor N. Bohr ("Nature," December 5) states:—"In particular for impacts in which the time of collision is short . . . the postulate of stationary states would seem to be irreconcilable with any description of the collision in space and time based on the accepted ideas of atomic structure." [Article XVI specifically dealt with quantum inconsistencies, from which "fluid flow" provides a way out by providing a non-radiating type of ring electron which can be stimulated by a light ray to emit radiation—see above also.]

(5) *Molecular Collisions*.—Direct evidence of the existence of unidimensional streams of molecules in which collisions do not take place has been published this year by M. Kroger. The experiments of Gölach and Stern on distillation of silver in a magnetic field also negative the theory that paramagnetism is due to collisions of atomic matter. Articles IX and XXII emphasise the incongruity of assigning all motion to molecules and none to streaming radiant energy.]

ZINC OXIDE.—The annual production of zinc oxide in America is about 150,000 tons.

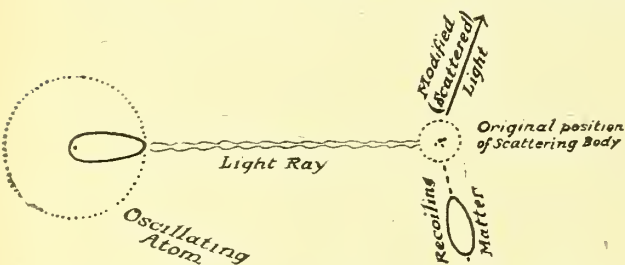


Fig. 31.—Pictorial representation of the production of a light ray by one electron forming part of an oscillating or radiating atom, and the "scattering" of light of less frequency (or energy) by an absorption of radiation and its subsequent re-emission by another electron.

to flow in behind the rotating atomic mass, while the extent of the disturbance increases with rate of ether flow and rapidity of rotation of an atom. Atoms suspended in a jet of flowing ether can undoubtedly attune their rate of rotation to that of the incident light ray when this is comparatively moderate (e.g., ordinary temperature), but its motion grows more irregular as the frequency (and temperature) of the incident light increases until the atom bounces away from the ethereal disturbance and then re-radiates energy on its own account. On this basis the scattering of light first requires the absorption of energy (from a ray of light) and subsequent re-emission from the recoiling atom. In a solid scatterer, where atoms are more or less fixed in space, and forced vibrations are produced, the state of affairs is somewhat different. Reduced to its simplest expression, a light ray in these circumstances corresponds to a jet of ether spraying an atom of matter with energy, and the pulsating flow which passes on derives its frequency from irregular or vibratory rotation of the atom impeding the flow of streaming ether. Fig. 31 depicts in diagrammatic form the process of emission, absorption, and re-emission of radiant energy. It links up the oscillating electron of Fig. 23 (Article XXI) with the pulse tube of Fig. 28 (Article 28) and the "fish-tail" recoil or "free" atom of Fig. 21 (Article XXI). The production of cloud rays depends upon the production of "ions"—electrically charged matter produced by bombardment with radiant rays or with other electrically charged matter, such as electrons (β -rays) or positively charged atoms (α -rays). Radiation is distinguished from electrically charged matter in not

Pharmaceutical Society of Great Britain

Branch Meetings

Ipswich.—The Ipswich and Suffolk Branch held a meeting on December 2, Mr. Symonds presiding. Mr. A. W. Nunn, Colchester, gave an address to students, and afterwards an address on the *B.P. Oils* was given by Mr. G. Perrins.

Liverpool.—A meeting of the Liverpool Branch was held at the Royal Institution on December 16, when about 150 members and friends listened with interest to an address on *The Chemistry of Plants and Animals*, by Professor E. C. C. Baly, O.B.E., M.Sc., F.R.S., Grant Professor of Inorganic Chemistry at Liverpool University. Professor Baly dealt with the new field of "high-energy" chemistry which has been opened out by means of his researches, and showed how his experimental results led to important advances in the laboratory synthesis of various plant products. The audience heard with interest the story of the invitation of American workers to Professor Baly to go over to America and show them how to carry out his famous synthesis of carbohydrates by means of ultra-violet light, and how this led to further important advances. In his conclusion the lecturer pointed out that the results of the latest research seemed to show the necessity for mankind to ensure that as much of his food as possible be eaten in the fresh condition, even cold storage tending to produce undesirable changes and to cause a loss of vital principles. Mr. H. Humphreys Jones, A.I.C., F.C.S., Ph.C., proposed a vote of thanks to the lecturer, and Mr. Frank Wokes, B.Sc., A.I.C., Ph.C., seconded. Mr. T. E. Lescher, O.B.E., and Mr. L. Moreton Parry supported the vote.

Drug Index

Summary 1918-1925 inclusive

Drugs (1913=100)

	1918	1919	1920	1921	1922	1923	1924	1925
Jan.	207.6	232.9	315.2	239.0	182.0	152.2	164.0	152.4
Feb.	212.5	230.6	324.3	226.0	178.0	153.7	160.3	152.0
Mar.	215.2	216.2	336.4	215.8	171.3	153.6	160.7	152.3
April	216.5	207.0	345.8	212.8	170.4	155.1	159.3	151.3
May	224.6	196.0	344.6	209.7	169.8	157.3	158.7	149.0
June	221.8	200.9	362.7	207.5	161.2	156.9	156.2	148.4
July	217.0	202.3	341.4	200.4	158.9	157.2	158.7	149.6
Aug.	217.8	205.2	322.5	193.2	158.2	156.5	156.2	149.6
Sept.	219.7	213.9	334.6	188.1	155.4	157.2	154.7	149.5
Oct.	227.5	216.2	289.6	186.8	154.7	156.6	152.3	148.8
Nov.	242.4	216.4	268.2	188.9	153.4	160.8	154.4	148.4
Dec.	236.5	218.0	258.2	188.2	153.3	161.9	152.7	148.2

Dressings (1913=100)

	1918	1919	1920	1921	1922	1923	1924	1925
Jan.	390.5	478.4	390.2	268.8	214.6	205.4	239.6	252.6
Feb.	438.1	390.0	357.6	250.6	214.6	205.4	243.0	239.6
Mar.	438.1	276.2	405.8	250.6	209.0	219.0	250.3	235.6
April	483.1	286.8	400.4	256.6	203.4	225.4	250.3	235.6
May	483.1	268.8	402.4	256.8	201.2	225.4	250.3	228.8
June	483.1	268.8	408.2	256.2	197.4	225.4	250.3	228.8
July	483.1	231.3	445.2	244.4	197.4	225.4	250.3	228.8
Aug.	495.0	253.3	445.2	230.6	197.4	225.4	250.3	228.8
Sept.	501.7	270.1	406.6	230.6	204.0	225.4	258.4	227.2
Oct.	511.2	292.9	374.2	230.6	204.0	225.4	258.4	227.2
Nov.	513.3	308.7	365.2	230.6	204.0	225.4	258.4	225.0
Dec.	513.3	333.7	320.6	230.6	204.0	225.4	258.4	225.0

Recent Patents

New Local Anæsthetics.—A process for the preparation of analogues or derivatives of cocaine, or its isomerides, consisting in replacing the hydrogen of the carboxyl group of an acylegonine or acyl-pseudo-econone by an aromatic alcohol residue, such as the benzyl group, by heating the base with a mixture of alkali pyridine and an aralkyl chloride. The resulting salts exhibit local anæsthetic properties, the hydrochloride of the benzyl ester of benzoyl-*l*-econone having about half the toxicity of cocaine. (The Wellcome Foundation, Ltd., W. H. Gray and T. A. Henry. 239,985.)

Insurance Act Dispensing

Record of matters concerning Chemists' interests in the National Health Insurance Acts.

Local Reports

Cheshire.—At a special meeting of the Insurance Committee held on December 16 a number of resolutions were passed at a result of the Committee having considered certain evidence taken before the Royal Commission. The Committee consider that should the evidence lead the Royal Commission to a recommendation for the abolition of Insurance Committees, there will have been removed from Public Administration a body which has a very definite place and purpose in the scheme of National Health Insurance. The Committee views with alarm the present tendency to place the entire local government in the hands of the County or County Borough Councils. The Insurance Committee decided to submit for the consideration of the Royal Commission the following observations and opinions, among others, upon such evidence:—

That the evidence of Sir William Glyn-Jones, in so far as it relates and purports to bear witness to the administration by the County of Middlesex Insurance Committee of its powers and duties under the National Health Insurance Acts, cannot, in any way, be accepted as being illustrative or typical of the work of Insurance Committees generally throughout the country. On the contrary, the evidence of Sir W. Glyn-Jones would rather suggest a failure on the part of an individual Committee to appreciate its powers and duties under the Acts and its responsibility to the insured persons of the area.

In view of the following Extract from Sir W. Glyn-Jones' Presidential Address to the National Association of Insurance Committees in 1923, when referring to the great progress made under the Act, viz.: "Insurance Committees have played a great part in the work thus accomplished," it is difficult to reconcile his present attitude with his past opinion. Expressed briefly and graphically, Sir William Glyn-Jones says to Insurance Committees: "Well done, thou good and faithful servant, thou hast been faithful over a few things, I will make thee ruler over nothing."

There is no question that the qualities and abilities so markedly and successfully displayed and exercised by Insurance Committees in the early years of National Health Insurance were largely instrumental in the satisfactory solution of many of the greatest problems connected with the scheme, and it is to such qualities and abilities that the present smooth and efficient running of the machine must in the main be attributed.

It is contended that those qualities and abilities are still abundantly present in the great majority of Insurance Committees, that they are to-day being displayed and exercised, notwithstanding that Sir William Glyn-Jones' evidence would point to an exception, and are without doubt pre-eminently suitable for utilisation in the administration of the extensions of Medical Benefit which have been recommended and are foreshadowed. That Insurance Committees have the ability and await the authority, that they have the potentiality within and await the power from the State, and that they have the machinery and demand the mandate.

That there would not appear from the evidence taken on the days in question that any good or sufficient reason has been advanced in support of the proposals put forward by certain witnesses on such days that the powers and duties of Insurance Committees should be transferred to the already overburdened Local Authorities or Committees of the same.

That the work of Insurance Committees is so intimately associated with Approved Societies, medical practitioners, chemists, etc., as to demand a body for its administration whose direct representation shall be more than a mere co-opted minority on some Committee subordinate to a Local Authority.

It further resolved unanimously to resist any proposals which may have as their object the abolition of Insurance Committees, and the Committee urged that all insurance committees, approved societies, local medical and panel committees, pharmaceutical committees, and the National Association of Insurance Committees be urged to adopt resolutions to the same effect.

Great Yarmouth.—At the quarterly meeting, on December 18, of the Insurance Committee, the Pharmaceutical Subcommittee reported that they had considered a report from the analyst on a medicament dispensed on November 6 by a firm of chemists. The chemists explained that they had mislaid the copy of the formula, but had sent to the committee's office for a fresh copy, which was now placed in a permanent position. It was resolved to withhold £2 from the chemists.

Trade Report

The prices given in this section are those obtained by importers or manufacturers for bulk quantities or original packages. To these prices various charges have to be added, whereby values are in many instances greatly augmented before wholesale dealers receive the goods into stock, after which much expense may be incurred in garbling, packing, etc. Qualities of chemicals, drugs, essential and fixed oils, and many other commodities vary greatly, and higher prices than those here quoted are charged for selected qualities of natural products even in bulk quantities.

42 Cannon Street, E.C.4, December 23.

INTEREST in the produce markets has considerably slackened off, in view of the approaching Christmas holidays, and the resumption of business on a normal scale is not looked for until after the turn of the year. Both pepper and Japanese peppermint oil command considerable interest in forward positions, and prices have fluctuated daily. Lemon oil is still very firm to come forward, while cassia oil is easier to arrive. Menthol has a continued easy undertone; higher prices are asked for juniper berries. Antimony is dearer. A possible advance in rectified spirit is talked of, to take place on January 1. In pharmaceutical chemicals business is practically closed for the remainder of the year, and no important price-changes are expected, most items being steady. Methyl sulphonal is rather firmer. Among industrial chemicals business is much quieter, about the only change of importance being a further advance in acetone; oxalic acid is steadier. Among vegetable oils and allied products a number of items are easier, including cotton of all grades, palm, wood, soya and linseed oils; turpentine is dearer. Shellac is inclined to be easier. Antimony is strong and dearer.

Higher	Firmer	Easier	Lower
Acetone	Fenugreek	Caraway oil	Geranium oil
Antimony	seed	Cassia oil	(Bourbon)
Citronella oil	Methyl sulphonal	Cotton oil	Peppermint oil
Juniper berries	Pitch	Hemp seed	(Jp.)
Turpentine		(Manchurian)	Rubber
		Linseed oil	Wood oil
		Menthol	(Hankow)
	Steadier	Palm oil	
		Shellac	
		Soya oil	
	Ground nut oil		
	Oxalic acid		

Crude Drugs, etc.

AGAR AGAR is quiet, with Japanese No. 1 on the spot offering at 4s. 6d., and No. 2 at 4s. 3d. per lb.; to arrive, 4s. 4d. c.i.f. and 4s. 1½d. c.i.f. is quoted respectively.

ALBUMEN.—Prime Chinese egg is slow of sale at 3s. 6d. per lb. on the spot, and for December-January shipment 3s. 6d. c.i.f. is quoted.

ALCOHOL.—In October 1924 the price of rectified spirit, it may be remembered, was, owing to outside competition, reduced from 2s. 6d. to 1s. 7d. per proof gallon, and this is the price to-day. The circumstances which brought down the price may shortly alter, and it is expected, but cannot be said authoritatively, that the price will revert to 2s. 6d. per proof gallon again on January 1, 1926. It is quite possible that the distillers may make the price even higher to reimburse themselves for the losses sustained during the period when the price was 1s. 7d.

ANTIMONY.—In consequence of the further depletion of stocks here and a continued American demand, prices were raised again substantially. English refined stands at £95, and warehouse lots of Chinese regulus are held for £87. The quotation for crude is also higher at about £65, but the market is quite nominal.

BISMUTH.—An arrival of 1,100 lb. metal has taken place from Italy.

CADMIUM is steady with a moderate demand for Australian at 1s. 9d. per lb., and there is an ample supply available, so that sellers of American who are asking well over that figure find business impossible.

CAMPHOR (REFINED) is unchanged, Japanese 2½-lb. slabs offering at 2s. 8½d. per lb., and October-December shipment at 2s. 8d. c.i.f. to arrive.

CLOVES are quiet, with Zanzibar offering on the spot at 11d. to 11½d. per lb., as to quality. To arrive, December-February shipment is quoted at 10½d. c.i.f., and January-March shipment at 10½d. c.i.f. The statistics for the week ended December 19 show 799 bales were landed and 290 delivered, leaving a stock of 12,686, against 15,427 in 1924 and 20,024 in 1923. So far this year the landings have been 18,891, against 41,243 last year, and the deliveries 21,309, against 45,205 in 1924.

COCOA BUTTER.—English is unaltered at from 1s. 3½d. to 1s. 3½d. per lb., according to make, in not less than one-ton lots.

GALLS are steady; to arrive, plum-shaped are quoted at 57s. per cwt. c.i.f., and ordinary shape at 55s. c.i.f.

GAMBIER is quiet, with January-March shipment offering at 41s. per cwt. c.i.f.

GINGER is slow of sale. West African is offered at 58s. per cwt. on the spot, and peeled at 80s.; Japanese is 85s. spot. Washed rough Cochin is 100s., Calicut 100s., and Cochin B cut 160s. per cwt.

GLUCOSE.—American guaranteed water-white is quoted at 22s. per cwt., duty paid landed terms for prompt delivery, and for January-March delivery 21s. 3d. per cwt. duty paid is quoted.

GUM ACACIA is quiet, with natural Kordofan sorts offering at 56s. 6d. per cwt. and cleaned at 61s. to 61s. 6d. per cwt. on the spot; to arrive, 50s. and 52s. c.i.f. is quoted respectively.

IPECACUANHA.—Forty-four bales Matto Grosso have arrived. Market is steady with small sales of Matto Grosso at 12s. per lb.

JUNIPER BERRIES are higher, sellers of Italian asking 21s. per cwt. on the spot.

MAGNESIUM continues firm, English makers getting a fair business on the basis of 3s. 9d. to 4s. 3d. for small sticks or ingots, while powder is quoted about 5s. to 6s. per lb.

MENTHOL is very quiet and a trifle easier at 32s. per lb. on the spot. Forward positions are nominal and unchanged, October-December shipment offering at 27s. 6d. and January-March at 24s. c.i.f.

MERCURY was quieter before the holidays, and although business was apparently possible at £15 per bottle, certain holders were still asking up to £15 5s. for spot lots. There is not much offering for shipment, the quotation f.o.b. for Italian being about £14 and upwards.

PEPPER has fluctuated considerably. Fair black Singapore has been sold at between 1s. 4½d. and 1s. 6d. per lb. on the spot, closing on Tuesday evening at 1s. 5d. To arrive, January-March shipment has been sold at 1s. 4d. to 1s. 6½d. to 1s. 5½d. c.i.f.; Lampong at 1s. 5½d. spot; and January-March at 1s. 5½d. to 1s. 6½d. to 1s. 5½d.; Tellicherry, January-March shipment, at 160s. c.i.f.; and Alleppy at 155s. c.i.f. White Muntok has been done at from 1s. 7½d. to 1s. 8½d. to 1s. 8d. per lb. on the spot, and January-March at 1s. 8½d. to 1s. 9½d. to 1s. 8½d. c.i.f. f.a.q. Singapore on the spot has been sold at 1s. 7½d. to 1s. 9d. to 1s. 8½d., and January-March shipment at 1s. 8d. to 1s. 9d. to 1s. 8d. c.i.f.

PIMENTO is steady at 7½d. per lb. on the spot, and for December-January shipment 72s. 6d. c.i.f. is quoted.

RUBBER is again easier by 1½d. per lb. on the week, but is fully 3d. per lb. better than the worst. The market has fluctuated considerably, and although the tendency at the close was distinctly firmer, there is very little actual business passing. We understand a fair amount of rubber was liquidated last week by weak holders, and in addition there was a heavy "bear" raid, which further depressed the market. During the past few days there has been a certain amount of covering by "bears," which has tended to harden values, but the actual position of the market is still weak on account of the absence of orders from consumers. As anticipated, stocks were heavily increased last week, 948 tons being added to the London stock, which now stands at 5,402 tons. We understand there will be a further increase this week. New York continues to refrain from buying, while we understand a shipment

of 800 tons is now on the way to London from America. Quotations (Tuesday, 5 p.m.): No. 1 standard-ribbed smoked sheet, spot and December, 3s. 10½d.; January-March, 3s. 8½d.; April-June, 3s. 5½d. per lb.

SANTONICA (Russian wormseed).—Owing to a printer's error, the price of one bag and over in last week's issue (p. 877) was given as 23s. per kilo, instead of 22s. per kilo; the former price applies to quantities of less than one bag.

SEEDS.—Owing to the Christmas holidays, the seed market is unchanged, and continues dull. **ANISE**.—Spanish is 52s. 6d., Russian 50s., and Levant 45s. **CANARY SEED**.—Mazagan has sellers at 29s., but there is no demand; good bold Spanish is offered at 34s. 6d., and cleaned small at 30s. 6d. **CORIANDER SEED** is in no demand with sellers at 16s. 6d. spot. **CUMIN SEED** is very quiet with sellers of Maltese at 40s., and Morocco at 37s. 6d. to 40s. **DILL SEED** is 20s. 6d. on the spot. **FENUGREEK SEED**.—Morocco is firmer at 14s. spot. **HEMPSEED**.—Manchurian is easier at 15s. 6d. **LINSEED**.—Mazagan 24s. 6d. on the spot. **MUSTARD SEED**.—English is still very scarce, and nothing offering.

SHELLAC.—With rather larger arrivals this month, and continued unsettlement at Calcutta, prices at this end have been downward inclined. The statistical outlook is easier, but consumption is good. The December returns are expected to show a fairly good increase in the stocks. Usual standard TN orange is 210s. to 215s. per cwt. on the spot; fine second orange 250s., superfine 270s. to 310s., and AC cakey 212s. 6d. per cwt. For delivery, the sales include December at 192s. 6d. to 200s., March at 187s. 6d. to 192s. 6d., and May 190s. to 185s. To arrive, TN for January-February shipment has been sold at 185s. to 187s. 6d. c.i.f.; Calcutta spot is rs.89.

TURMERIC is steady, with fair Madras finger offering on the spot at 34s. 6d. per cwt., and November-December shipment at 31s. 6d. c.i.f. Cochiti split bulbs is 17s. 6d. spot, and 16s. per cwt. c.i.f. for November-December shipment.

WAX, VEGETABLE.—Sales of fatty grey *Carnauba* have been made at 175s. per cwt. on the spot, and for December shipment 152s. c.i.f. is quoted. Japanese wax is steady at 85s. per cwt. on the spot, and for January-March shipment 82s. 6d. c.i.f. is quoted.

Essential Oils

THERE are few changes to record this week, and general demand is now practically ended for the year. Ceylon citronella is scarce on the spot and has improved; some forward purchases have been made at higher rates. Cassia oil is cheaper to arrive; caraway is also easier. Japanese peppermint is cheaper and is still attracting speculation.

ANISE (STAR).—"Red Ship" is quiet on the spot at 3s. 3d. per lb., and for shipment at 2s. 6d. c.i.f. for drums and 2s. 9d. c.i.f. for cases.

BAY.—West Indian distilled is offered at from 8s. to 8s. 6d. per lb. for 40 to 50 per cent. phenols.

BERGAMOT has been firm at about 25s. per lb. c.i.f. to arrive for 37 to 39 l.a., January shipment. A recent advice from the source states that there is now a slightly weaker tendency. Spot supplies are scarce at from 25s. to 26s.

CARAWAY is tending easier in view of the slow demand, and 7s. per lb. or a shade less is about the value of double rectified.

CASSIA is slightly easier on the spot, with sellers at 10s. per lb. for 80 to 85 c.a., and for shipment 8s. 6d. c.i.f. would probably be accepted.

CITRONELLA.—Ceylon is rather better at from 1s. 11d. to 2s. per lb., with forward sales at from 1s. 9½d. to 1s. 10d. c.i.f.

CLOVE.—English distilled is steady at from 6s. 9d. to 7s. per lb.

EUCALYPTUS is quiet and unchanged at from 1s. 9d. to 1s. 11d. per lb. as to percentage.

JUNIPER BERRY.—B.P. oil is selling on the spot at 7s. 9d. per lb.

LEMON.—The spot position remains firm, 6s. 6d. per lb. having been paid freely. For quantity 6s. 4d. would

be accepted in some directions. For shipment, up to 6s. 8d. c.i.f. to arrive is quoted.

PALERMO, December 17.—The demand from abroad continues to be good, and as there has also been an active local demand, the market has hardened, and prices have again advanced, whilst the position still has a rather firm upward tendency.

LIME.—West Indian distilled is firm at 10s. per lb. Hand-pressed appears to be unobtainable.

MANDARIN.—Spot is offered at 29s. per lb.

PALMAROSA is quiet and unchanged at 12s. per lb. in original pots.

PATCHOULI.—For the remaining spot stocks of Penang 20s. per lb. is wanted.

PEPPERMINT.—American natural tin oil remains very firm, leading brands offering in limited quantity at 125s. per lb. on the spot. H.G.H. is quoted to come forward at 125s., but there are no buyers at this figure. Japanese dementholised attracts a considerable amount of speculative interest for forward shipment and the market has been subject to rigorous "bear" selling. A fair amount of business has been done, comprising October-December shipment at 13s. 9d. to 14s. c.i.f., and January-March at 13s. 3d. to 13s. c.i.f.; for March-May 13s. 6d. c.i.f. is asked. The spot price is 21s. 6d., at which sales have been made.

PIMENTO-LEAF, containing upwards of 70 per cent. engonol, is quoted on the spot at 6s. 6d. per lb.

SPEARMINT.—American is unchanged at 62s. per lb., ex warehouse.

WORMSEED (CHENOPodium).—American is firm at 25s. per lb. c.i.f. to arrive.

The following arrivals of essential oils have taken place from the countries named during the period December 17 to 22 inclusive: Anise (Fr.), 5 cs., (Ch.), 50 cs.; bergamot (It.), 2 cs.; cassia (Fr.), 5 cs.; citronella (Jv.), 4 dm.; eucalyptus (Sp.), 20 cs.; lavender (Fr.), 3 cs.; lemon (It.), 33 cs.; lime (B.W.I.), 12 cs.; mandarin (It.), 2 cs.; orange (It.), 6 cs.; otto of rose (Tky.), 2 cs.; peppermint (Ch.), 3 cs.; (Jp.), 235 cs.; rosewood (Fr.), 1 dm.; spike (Sp.), 12 dm.; thyme (Sp.), 1 dm.; undescribed (Fr.), 11 cs.; (Germ.), 4 cs.

Pharmaceutical Chemicals, etc.

BUSINESS has been much quieter this week, as is usual at this period of the year. The tone continues steady on spot and there is very little change to record.

ACETANILIDE is unchanged, with the market quiet with the end of the year: spot, B.P. crystals and powder, 1s. 7d. to 1s. 8d. per lb.

AMIDOPYRIN is quiet at from 12s. 9d. to 13s. 3d. per lb.

ASPIRIN continues steady, with prices unchanged: dealers' spot prices, 2s. 5d. to 2s. 6d. per lb., according to quantity.

BARBITONE remains slow on spot at about 9s. 9d. to 10s. per lb.

BENZALDEHYDE (0.05) is unaltered at about 2s. 6d. to 2s. 9d. per lb.; market dull.

BENZOIC ACID is quiet but steady: British, B.P., 2s. to 2s. 6d. per lb., ex works; Continental, spot, 3s. to 3s. 6d. per lb.

BENZONAPHTHOL continues to be quoted at about 3s. 6d. per lb., spot; business slow.

BROMIDES.—There is no change in quoted prices, but with business dull and stocks freely offered the position is not at all steady: ammonium, about 2s. 5d.; potassium, B.P. crystals and granular, 1s. 8½d. to 1s. 9d.; sodium, B.P. crystals and granular, about 1s. 10d. per lb.

CALCIUM LACTATE.—British makers have issued a list price of 1s. 4d. to 1s. 5d. per lb., ex works. Dealers' prices for spot are at about 1s. 5d. to 1s. 6½d. per lb.

CHLORAL HYDRATE is very steady, although quiet at present. Duty paid is 3s. 3½d. to 3s. 5d. per lb.

CITRIC ACID (B.P. crystals) continue dull, with dealers quoting to arrive at 1s. 3½d. to 1s. 3¾d. per lb., less 5 per cent.

CREOSOTE (B.P.) is very steady as quoted by dealers at 1s. 10d. to 1s. 11d. per lb.

CREOSOTE CARBONATE is unchanged on a flat market: spot, about 6s. 6d. to 6s. 9d. per lb.

GALLIC ACID has been in fair demand, with big lots rather under 2s. 8d. per lb.

GUALACOL CARBONATE holds firm, with prices up to 7s. to 7s. 3d. per lb.

HEXAMINE is unchanged on spot as quoted at about 2s. 4d. to 2s. 6d. per lb. Business has been quiet this week.

HYDROQUINONE is fairly steady on spot as offered at about 4s. 2d. to 4s. 4½d. per lb.

LACTIC ACID (B.P.), in demijohns, is quoted at about 2s. 3d. per lb.; small lots, about 2s. 5d. per lb., in bottles; technical, 50 per cent., by weight, £42 per ton net.

METHYL SALICYLATE from British makers is offered at 1s. 6½d. to 1s. 7½d. per lb., ex works. Dealers' prices run from about 1s. 7d. to 1s. 7½d. per lb., in carboys.

METHYL SULPHONAL is rather dearer, with most spot prices up to 17s. per lb.

MILK SUGAR is unchanged: B.P. finest Dutch powder, in two-cwt. cases, 75s.; five cases, 74s.; ten cases, 73s. per cwt. PARAFORMALDEHYDE is very steady, and business continues good. Dealers' prices are firm at 1s. 11d. to 2s. per lb.

PARALDEHYDE is unchanged at from 1s. 2d. to 1s. 4d. per lb., according to quantity and packing.

PHENACETIN is steady on a quiet market, with dealers quoting 4s. to 4s. 3d. per lb., spot.

PHENAZONE is firm on spot at 6s. 3d. to 6s. 5d. per lb., with Continental prices supporting the position.

PHENOLPHTHALEIN holds at last week's better prices of 4s. 3d. to 4s. 4d. per lb.

POTASSIUM PERMANGANATE (B.P.).—Prices are steady at about 7½d. per lb. in drums; cheaper prices for large parcels to come forward.

POTASSIUM SULPHOGUAIACOLATE is dull but steady at about 5s. 6d. to 5s. 9d. per lb., spot.

RESORCIN continues steady at about 3s. 9d. per lb., but business is now quieter.

SALICYLIC ACID (B.P.).—British makers' prices are unchanged at 1s. 2½d. to 1s. 5d. per lb., ex works. Dealers' prices run about 1s. 3½d. to 1s. 4½d. per lb., spot; market steady.

SODIUM is steady but quiet, with spot values unchanged at about 3s. 3d. per lb.

SODIUM BENZOATE (B.P.).—Market steadier at about 1s. 9d. per lb., and slightly cheaper for quantities to come forward.

SODIUM DIETHYLBARBITURATE remains dull, with prices varying from 10s. 6d. to 11s. per lb.

SODIUM SALICYLATE (B.P.).—Dealers' prices are steady at last week's cheaper prices: crystals, 2s. 0½d. to 2s. 1d. per lb.; powder, 1s. 11d. to 2s. per lb. Fair business continues here.

SULPHONAL is dull, with dealers quoting at about 11s. 9d. per lb.

TANNIC ACID.—B.P. *levis* is steady on spot at about 2s. 8½d. to 2s. 10d. per lb. Market quiet.

TARTARIC ACID quiet. Dealers offer B.P. crystals at from 11½d. to 11½d. per lb., less 5 per cent. for shipment from the Continent.

THYMOL from dealers is steady at about 13s. per lb. for fine white B.P., spot.

VANILLIN is unchanged at from 21s. 6d. to 22s. 6d. per lb. for 100 per cent., according to quantity.

Industrial Chemicals, etc.

London, December 22.

THERE is but one change of importance to record this week—a further advance in acetone on a firm market. All other items are unchanged, with business much quieter in view of the approaching holidays.

ACETIC ACID is unchanged, with business quieter: 80 per cent. technical, £38; 80 per cent. pure, £39 per ton, in barrels; glacial, pharmaceutical, 99 to 100 per cent., £65 5s., in glass demijohns; glacial, in barrels, £55, ex wharf.

ACETONE is dearer again this week, with supplies short and business quite active: spot, in drums, £80 to £81 per ton for B.C.S.

ALUM remains steady, but has been dull: lump, in casks, on the spot, is £9 per ton.

AMMONIA (ANHYDROUS) is unchanged at 1s. 3d. to 1s. 3½d. per lb. for 99.95 per cent., in loaned cylinders, carriage paid in U.K.

AMMONIUM CHLORIDE.—Last week's cheaper prices are very steady; market dull: grey galvanising, spot, £24 to £24 7s. 6d. per ton, in casks.

ARSENIC.—There is no further change to report. Mines price for Cornish white powdered is about £14 to £14 10s. per ton, with very little interest shown. The outlook is uncertain, partly because consumers are short of stock.

BARIUM CHLORIDE holds very steady on spot at £9 10s. per ton, in casks, for 93 to 100 per cent. prime white crystals.

BARYTES is unchanged and steady at £3 5s. to £5 15s. per ton, c.i.f., according to quality and quantity.

BLEACHING POWDER has been dull. British makers' prices for home consumers on contract is £8 10s. for four-ton lots, delivered. Dealers offer at £9 7s. 6d. spot for 35 to 37 per cent. available chlorine.

COPPER SULPHATE.—The export demand is quiet, and the terms quoted between the Association and outside makers are rather wide. The latter lately have been taking orders down to as low as £24, but quotations generally range from £24 10s. to £25 per ton, f.o.b., for casks, less 5 per cent. discount.

CREAM OF TARTAR remains slack, with dealers offering B.P. quality for shipment at about 76s. to 77s. per cwt., less 2½ per cent.

EPSOM SALT is very steady, although business is at the moment quieter: commercial quality, in bags, £5 2s. 6d. per ton.

FORMALDEHYDE is very firm and supplies are limited: 40 per cent., by volume, is £40 15s. to £41 10s. per ton, ex wharf.

GLAUBER'S SALT is unchanged, with the market quiet. Commercial quality, in bags, spot, £3 12s. 6d. per ton.

LITHOPONE is very steady, but there is not much business just at the moment: 30 per cent. Continental red seal, £20 to £20 10s. per ton, in casks.

OXALIC ACID has been moving rather better and the tone is steadier at about 3½d. to 3¾d. per lb. on the spot. Forward in large quantities is 3½d. to 3¾d. per lb.

POTASSIUM BICHROMATE from British makers is unchanged at 4½d. per lb. American supplies are at level prices.

POTASSIUM CHLORATE continues firm, with a serious shortage of supplies: spot, 3¾d. to 4d., and same prices forward.

POTASSIUM PERMANGANATE.—Dealers are quoting commercial quality, in drums, at about 5½d. per lb., and business continues.

POTASSIUM PRUSSATE is firm at last week's higher prices, and supplies are limited: Yellow on the spot is 7½d.; forward, 7½d. per lb. in quantities.

SALTCAKE from British makers for home trade only is steady at £3 15s. per ton, in bulk, delivered.

SULPHUR.—Prices are well held and there is some demand for refined. The latter is quoted £11 to £11 5s. for flowers and £9 5s. a ton for roll, ex London warehouse. American crude is £5 10s. a ton, delivered Manchester.

TARTAR EMETIC is very steady, although rather quiet, at from 11½d. to 11½d. per lb. for 43 to 44 per cent. on the spot.

ZINC PRODUCTS.—Prices have ruled very steady, in sympathy with the renewed firmness of metal. Zinc ashes are wanted, and not easily obtained, at about £16 10s. to £17 a ton, delivered f.o.r., for 70 per cent. Zinc dust is £46 to £55 a ton. Zinc oxide is firmly held, with a fair demand, at from about £40 to £50, according to degree of purity.

COAL-TAR PRODUCTS, ETC.—Pitch is again firmer, otherwise the market is about the same, with business quiet with the approach of the end of the year. ANILINE OIL is unchanged at about 7d. per lb., carriage paid, in loaned drums. ANILINE SALT is steady, with British makers quoting down to 7d. per lb., naked at works. BETANAPHTHOL is steady but quiet at about 11½d. per lb., carriage paid in U.K. TOLUOL is 1s. 10½d. to 2s. for pure; 90's, 1s. 8d. to 1s. 8½d. per gallon. XYLOL holds firm and is short in supply: pure, 2s. 3d.; commercial, 1s. 11d. to 2s. per gallon, ex works. CARBOLIC ACID crystals (39° to 40° C.) remain dull with prices quoted at about 4½d. per lb. for quantities, f.o.b. CREOSOTE OIL is steady but quieter: ex works, 6½d.; f.o.b., 7½d. per gallon, in bulk quantities. CRESYLIC ACID is unchanged at about 1s. 5d. to 1s. 7d. per gallon for 97 to 99 per cent. NAPHTHALENE remains flat: imported flakes or balls, £13; powder or crystals, £10 7s. 6d. per ton, ex wharf. Pure METHYL ALCOHOL is very steady: ex wharf, in drums, £47 per ton. PYRIDINE is well maintained and active at about 19s. 6d. per gallon. PITCH.—A further advance in the market quotation is recorded, with business quite good: quoted at 57s. 6d. per ton, f.o.b. East Coast.

Fixed Oils, etc.

BUSINESS has slackened off considerably, and a number of items are easier. Little activity is likely till the New Year. ACID OILS have been quiet; coconut and palm kernel, 39s. 3d.; groundnut, 36s.; soya, 32s. 6d. spot. CASTOR is very dull and unsteady: pharmaceutical, 52s.; first pressings, 47s.; second pressings, 44s. per barrel spot, in not less than one-ton lots. COCONUT is dull but steady: deodorised, spot, 52s.; Ceylon, 48s. c.i.f.; Cochin, 62s. c.i.f. COTTON is easier for all grades on a dull market: deodorised, 48s.; common edible, 46s.; soapmaking, 42s.; crude, 39s. 6d. spot. GROUNDNUT is quiet but steadier: deodorised, spot, 50s.; crude Oriental, 47s. c.i.f. PALM KERNEL is quiet but steady: deodorised, 49s. 6d.; crude, 45s. 6d. on the spot. PALM.—The market has been dull, and prices for some grades are again easier: Lagos, 40s.; softs, 38s. 6d.; mediums, 39s. 6d.; hards, 39s. 6d.; bleached, 41s. 3d. spot. RAPE is firm: refined, 54s. 6d.; crude, 51s. 6d. spot. SOYA is easier and dull: deodorised, 49s. 9d.; crude, 42s. spot. LINSEED (raw, naked) has remained quiet, and further falls in prices for all positions are recorded: on spot, 54s. 9d.; December, 53s.; January-April, 53s. 1½d.; May-August, 53s.; boiled oil, 37s. 3d. spot.—TURPENTINE.—The market was in a very unsettled state last week, when prices dropped considerably under pressure of speculative resales. £201 parcels were secured down to 62s. 9d., and January-April touched 63s. 6d., which level was at much below the

American price parity. "Bear" manipulation was partly responsible for the fall, but on the receipt of stronger American trade reports our market recovered several shillings per cwt. and closed strong on Tuesday on a more active general demand. Spot closed at 68s., and January-April at 69s. per cwt. Deliveries for last week were 1,184 barrels, making a total of 86,797 barrels for the year to date. The stocks were 55,946 barrels, which, together with 5,000 barrels in the course of landing, made the London visible supply 60,946 barrels, compared with 39,557 barrels and 32,870 barrels respectively at the same date in the two previous years.—WOOD.—Hankow, in barrels, on spot is quiet and easier at 63s.

LUBRICATING, MINERAL AND BURNING OILS, ETC.—Conditions have been quiet in this market, with the end of the year at hand. There is no special change to comment upon. **BENZOL** is firm and active: crude 65s. 1s. 3d.; standard motor, 1s. 8d.; pure, 1s. 11d. per gallon, ex works, in tank wagons. **FUEL OIL** is steady but quiet: 950 gravity, £3 17s. 6d.; 890 gravity, £4 7s. 6d. per ton, ex tank. **PARAFFIN WAX AND SCALE** is steady: wax, 3½d. to 5d. per lb., according to melting point, in bags: scale is unchanged at 27s. per cwt., c.i.f. London. **PARAFFIN OILS** are unchanged; American standard white, 1s.; water white, 1s. 1d. per gallon, barrels free. Russian prime white kerosene, 6d. to 6½d., ex tank; 6½d. buyers' barrels filled free; and 10½d. per gallon, barrels free, ex wharf, London. **WHITE OILS** are steady but quiet. Special No. 1, £23; No. 1, £26 10s.; No. 2, £24 7s. 6d.; No. 3 half-white, £23; No. 4 half-white, about £15 per ton, drums and barrels free, ex wharf, London. **SOLVENT NAPHTHAS** are rather firmer: 90 to 160, 1s. 4½d. to 1s. 5½d.; 90 to 160, 1s. 1d. per gallon, in bulk. **PETROLEUM JELLIES** are unaltered: white to snow white, £55 to £58; amber and yellow, £19 to £22; red vet. £18 17s. 6d.; dark stiff green, about £14 per ton, ex wharf, London, in barrels free. **LUBRICATING OILS.**—Last week's slightly firmer conditions are maintained: pales, £11 to £23 7s. 6d.; reds, £13 5s. to £23 7s. 6d.; dark cylinders, £13 15s. to £34 10s.; filtered cylinders, £21 5s. to £34 per ton, less 2½ per cent.

Exchange Rates on London

The following is a list of Continental and other exchange rates against the pound sterling on London prevailing at 4 p.m. on Tuesday:—

Place	Method of Quoting	Par of Exchange	December 16	December 22
Amsterdam	Fl. to £	12.107	12.07½—12.07½	12.06½—12.06½
Berlin	M. to £	20.43	20.36½—20.37	20.36—20.37
Brussels	Fr. to £	25.22½	107.00—107.05	106.95—107.05
Bulgaria	Lev. to £	25.22½	670—680	660—680
Calcutta	Perrup.	24d.	18½d.—18½d.	18½d.—18½d.
Constantinople	Pst. to £	110	895—905	900—915
Greece	Dr. to £	25.22½	380—385	374—378
Hong Kong	T.t. \$	—	28½d.—28½d.	28½d.—29½d.
Italy	Lire to £	25.22½	120½—120½	120½—120½
Kobe	Yen	24.58d.	21½d.—21½d.	21½d.—21½d.
Lisbon	Escu.	53½d.	2½d.—2½d.	2½d.—2½d.
Madrid	Pes. to £	25.22½	34.19—34.22	34.33—34.35
Montreal	\$ to £	4.86½	4.85—4.85½	4.85½—4.85½
New York	\$ to £	4.86½	4.84½—4.85	4.84½—4.85
Oslo	Kr. to £	18.159	23.88—23.93	23.86—23.90
Paris	Fr. to £	25.22½	132½—132½	133½—133½
Singapore	Per dol.	—	28½d.—28½d.	28½d.—28½d.
Switzerland	Fr. to £	25.22½	25.11½—25.12	25.12—25.13
Vienna	Sh. to £	24.02	34.39—34.43	34.35—34.40
Warsaw	Zloty to £	25.22½	48—sellers	45—50

Italian Calcium Citrate

THE Italian Minister for National Economy has fixed the minimum sale price of calcium citrate, containing 64 per cent. of citric acid, at 500 lire per 100 kilos for the next official year (1925-1926) of the Camera Agrumaria.

Bulgarian Rose Oil Exports

DURING the first nine months of 1925, according to official statistics, Bulgaria exported 1,861 kilos of rose oil, valued at 73,203,744 leva. In September exports amounted to 374 kilos, value 16,940,243 leva, to the following destinations:—Austria, 3; Belgium, 5; Germany, 6; Italy, 6; Poland, 5; United States, 11; France, 226; Holland, 6; Switzerland, 56; and other countries, 8 kilos. No rose oil was exported to Great Britain in September.

Canadian Bismuth

ACCORDING to a report of the Canadian Dominion Bureau of Statistics on the mineral production of Canada during the six months ending June 30, 1925, it is stated that in the treatment of silver-cobalt ores, small quantities of bismuth are accumulated in a bullion with lead and silver. While

the percentage of bismuth in the material treated is small, it has been found profitable to build up reserves of this bullion until a saleable product is obtained. In 1924 sales of bismuth in this form amounted to 12,865 lb., valued at \$16,079, and during the first half of 1925 sales of bismuth totalled 9,825 lb., which, at the average New York price of \$1.75 per lb., was worth \$17,196.

Peppermint Oil

IN its issue of December 7 the New York "Oil, Paint, and Drug Reporter" states that "Due to the extreme prices prevailing for domestic peppermint oil, attention of many sellers, brokers, foreign agents and the like have turned to other countries as a source of supply. Japan is supplying demethylized oil to this market, the same being imported as eorn mint oil or similar descriptive phrase. One prominent American dealer is redistilling and fractionating the Japanese oil and offering an excellent quality of oil at \$12 per lb. This price compared with American oil at \$23 to \$29 per lb. for natural and \$29 to \$30 per lb. for redistilled—which prices were general. However, purchases of natural oil last week were made as low as \$26.50 per lb. for a single drum. Samples of Italian peppermint oil have been received but the quality of the article suggested strongly that Japan knew the article before Italy naturalised it. There were also samples received from Marseilles."

Java Pepper Exports

EXPORTS of pepper from Java and Madura during the period January to October inclusive, 1924 and 1925, are given below, in tons:—

	Black Pepper		White Pepper	
	January-October 1924	1925	January-October 1924	1925
China	386	245	—	—
Egypt	39	11	—	—
Great Britain	2,044	974	544	557
Germany	279	3	31	193
Holland	1,306	640	524	269
Hong Kong	—	110	—	—
Italy	438	10	—	—
Singapore	2,686	2,114	7	15
Australia	—	—	137	137
U.S.A.	4,700	2,730	569	374
Other countries	136	49	55	41
Total	12,014	6,886	1,867	1,586

Japan's Foreign Trade

DURING the first six months of the present year Japan exported merchandise of home origin to the value of 951,776,978 yen (January-June, 1924: 780,225,696; 1923: 693,971,314 yen), while imports totalled 1,505,293,669 yen (January-June, 1924: 1,472,061,858; 1923: 1,107,939,810 yen). Among the exports the following may be mentioned (the quantities exported during the corresponding period of 1924 being given in parentheses):—Soya bean oil, 53,858 piculs (65,553 piculs); camphor oil, 8,517 piculs (14,712 piculs); peppermint oil, 2,744 piculs (1,659 piculs); vegetable wax, 14,003 piculs (24,226 piculs); ginseng, 394 piculs (895 piculs); iodine, 16,860 kin (1,700 kin); potassium iodide, 7,705 kin (2,095 kin); insect powder, 2,805 piculs (3,047 piculs). Imports include: cinchona bark, 233,416 kin (1,507,653 kin); gum acacia, 430,264 kin (909,385 kin); shellac, 614,406 kin (435,941 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,024 kin); salicylic acid, 143,332 kin (232,963 kin); carbolic acid, 1,142,066 kin (824,486 kin); citric acid, 88,963 kin (98,793 kin); potassium bromide, 11,132 kin (38,391 kin); glycerin, 2,514,136 kin (2,102,235 kin); opium, 13,356 kin (4,787 kin); acetanilide, 165,644 kin (124,314 kin); antipyrin, 176,313 oz. (821,749 oz.); salicylic acid, 487,819 kin (577,024 kin); tartaric acid, 487,819 kin (577,



Letters for this section should be written on one side of the paper only. Correspondents may adopt an assumed name for purposes of publication, but must in all cases furnish their real name and address to the Editor.

The R.P.U. View

SIR,—The publication by Mr. Skinner last week of the correspondence with the Home Office regarding the correct way of prescribing Tab. Naso-pharyngeal Co. N.H.I., under the Dangerous Drugs Act Regulations, has naturally caused a great deal of surprise. It would appear from the correspondence that the Home Office hold that the doctor was wrong in refusing to state on the prescription the amount of cocaine in the preparation. If this is the Home Office view, we are bound to dissent from it. The regulations, fortunately, do not require a doctor to inform his patient of the fact that he is taking cocaine, morphine or heroin. He is entitled, as he always has been, to disguise the fact from the patient, and he does this by using such a recognised name for the compound as was the case in this instance. The regulations require that the amount of the dangerous drug should be stated on the prescription. The dangerous drug in this instance is Tab. Naso-pharyngeal Co. N.H.I. and, provided the quantity of those tablets is stated on the prescription, the regulations are, in this respect, clearly complied with. We write this with the knowledge that if any members of the Retail Pharmacists' Union are proceeded against for acting upon this view, the Union must take the responsibility.

Yours faithfully,

G. A. MALLINSON, Secretary.

Searching for a Business

SIR,—Your correspondent "Dibs" (*C. & D.*, October 24, p. 597) seems to be surprised that £500, £600, or £700 should be considered good profits for a chemist's business, and yet I dare say there are a good many men in small businesses to-day who would deem themselves fortunate with such a return. The reason for this smallness of profit compared to other trades can be stated briefly in two words—average sales. If in a pharmacy one customer spends, say, five shillings on a bottle of perfume, the next five or six people want a twopenny seidlitz powder or box of pills—average sales, about one shilling a head. How much meat would one get at a butcher's, or how much clothing at a draper's, for a shilling? Take a boot shop—nothing worth having under a guinea; how many lines are priced in our windows at a guinea? The only goods which compare with ours in smallness of price are such things as groceries, small household sundries, bread, and things which the public are compelled to buy as necessities every day in the week, so that the sellers make up in rapidity of turnover what they lose in amount. Compare, again, the returns for actual work done. A pharmacist dispenses two dozen pills and charges 1s. 6d.; a bootmaker soles a pair of boots and charges 5s. 6d.; which is the more skilled operation?—Yours, etc.,

AVERAGE SALES (26/10).

Labelling of Poisons Order

SIR,—We have been given several ways of ascertaining the meaning of the Labelling of Poisons Order. It was stated at an Edinburgh Branch meeting (*C. & D.*, December 19, p. 862) that the Order is part of Section 17 of the Pharmacy Act, 1868, and is administered by the Pharmaceutical Society; and yet elsewhere the view is taken that it is not the special or exclusive function of the Society to enforce Section 17. If this latter is the correct reading, I presume that it is open to any person to lay an information as to a breach of the Order at the nearest police station, and the police will be compelled to act. It has been held out as a kind of reward to pharmacists for the inconvenience and expense they will be put to by this Order that it will restrict the sale of these goods to qualified men; but if these articles were all poisons before, why have not the sales been

restricted under the Pharmacy Act? A difficulty likely to arise is in the case of preparations the name of which does not convey any idea of the contents, if these (poisonous) contents are not declared on the label; I do not know if it is the duty of any authorised body to investigate such cases, but I am afraid it is a difficult task, as it would mean purchasing samples and having them analysed, which, in view of the number of proprietaries on the market, would be an endless job.

Faithfully yours,

HOPEFUL (21/12).

High Establishment Charges

SIR,—At a recent meeting of the Thames Valley Pharmacists Association (*C. & D.*, November 14, p. 681) reference was made to the increased returns of to-day compared to those of years ago; but the report does not say if any comparison of establishment charges was included. I cannot say what the expenses were fifty years ago; but I do know that the rent demanded for shops which fall empty in my neighbourhood at the present time is exactly five times the amount that it was for the same accommodation fifteen or twenty years ago and, in addition, there is generally a premium of several hundred pounds to pay before one can get possession. Further, all the other expenses have gone up to double pre-war rates, so that if the pharmacist has not increased his turnover he is in a bad way; in spite of the official index of living figure, he is a very careful man who can keep his household expenses below double the 1914 requirements, and it is a moot point whether we are very much better off in the long run. What is crushing us, and to a large extent crippling fresh trade enterprise, is the heavy taxation we are subjected to; and until this is eased we cannot expect to become much better off.

Faithfully yours,

SERVITOR (17/11).

A Compulsory Provident Fund

SIR,—"Pension" (2/11) is right in a sense, and certainly the Benevolent Fund of the Pharmaceutical Society might be made more generally useful. The Insurance business upset many calculations, no doubt, but there are several very good Friendly Societies from which your correspondent might make a selection. A point is that, as many millions of workers were conscripted into this kind of insurance without being consulted in the matter, Friendly Societies should not be allowed the option of refusing applicants; or the matter might be made a ground of appeal to a higher authority. From what I am told, although memberships have largely increased, it is not always easy to get enrolled. I myself was refused membership of one, presumably for health reasons (the doctor did not admit this) twenty-five years ago; but here I am still, a much better life at seventy than many younger men. My firm was big enough to start their own, and the scheme worked admirably, with the least possible trouble to the members. Salaries were paid, ill or well, and, presumably by arrangement between the salaries department and the Society, "time off" would be accounted for to a day. Pensions are not so easy to establish. Find a millionaire subscriber of £100,000 to the Benevolent Fund and something might be done, provided it was supplemented by steady contributions from the rank and file. The trouble is, of course, that the people to benefit do not, as a rule, care to contribute sufficient to bring about liberal results. It is correct to say that the fund does good work in necessitous cases—and there, I think, we must leave it.—Yours, etc.,

VETERAN (21/12).

Appreciations

The *C. & D.* Stocktaking Pad is a jolly good book.—*F. H. V.* (18/12).

The *C. & D.* to my husband was what a feed is to a hungry man.—*A. E. G.* (14/12).

I can only repeat my appreciation of your very up-to-date periodical, without which the drug trade would be in a very precarious and perhaps dangerous position.—*J. F.* (11/12).

Legal Queries

W. J. M. (19/12).—"0.0125 morphine in each teaspoonful" would not be a "proportion" without qualification.

J. H. (16/12).—The method you adopt of entering the formulas of prescribed medicines in the prescription book is correct.

G. W. D. (14/12).—Calomel is not a scheduled poison and has not therefore to be declared under the Labelling of Poisons Order.

H. S. (19/12).—(1) A rat paste containing barium carbonate is a statutory poison, and should be labelled: "Contains barium carb. 1/2—Poison." (2) Calomel is not a statutory poison.

Camphor (16/12).—The ammonia preparation comes under the Poisonous Substances Section (see *C. & D. Diary*, 1926, p. 267), and according to the recent pronouncement of the Pharmaceutical Society does not require to be labelled with the proportion of the poison it contains.

R. & Co. (18/12).—(1) The Labelling of Poisons Order does not refer to dispensed medicine. (2) The article in the *C. & D.*, December 19, p. 871, answers your inquiry regarding the labelling of proprietary medicines. (3) No alteration in the Poisons Register is required by the Labelling Order.

A. M. (16/12).—The word "poison" must also be on the label, otherwise the rheumatic pill label is in order. It seems hardly necessary to state that it is a "harmless dose," which should be obvious. As a rule, we think it best to state only bare facts required by law, rather than to try to soften the effect of declaring that an article contains a poison.

W. L. D. (16/12) gives tuition for the optical examinations. A student enrolled for a course, but after eighteen months has written to say that he cannot continue with the study. The student asks for the return of the fee which he paid. What is the legal position? [Assuming that the student contracted, definitely and unconditionally, to take the complete course, we do not consider that "W. L. D." can be compelled to refund any part of the fee paid.]

H. N. L. (14/12).—Under the new regulations of the Pharmaceutical Society of Great Britain an apprentice in an institution approved by the Council is articulated to the Governing Board, and the indentures are countersigned by the pharmacist. The form, which was printed in the *C. & D.*, October 24, p. 575, may be obtained from the Registrar, 17 Bloomsbury Square, W.C.1. The discharge of the indentures is signed by the secretary and pharmacist of the institution.

Yalta (13/12).—Mixtures containing over 3 per cent. of phenol and its homologues are exempted from the Regulations of Part II of the Poisons Schedule if for agricultural or horticultural purposes. The mere labelling that such was the purpose for which such a substance was packed would not absolve an unqualified vendor who sold what was obviously an ordinary household disinfectant. The intent and purpose of the exemption should be taken into consideration and the transaction must be *bona fide* agricultural or horticultural.

H. B. (4/12).—(1) It is better to state the proportion of the poison on a label if the name is indicated in the title of the article, e.g., "Bay rum and cantharides," as unless this is done the assumption is that to all intents and purposes there is no poison present. (2) *Asthma Powder*: "Contains fol. stramonii 25 per cent.—Poison" is a good declaration, though the amount of poison is exceedingly small. (3) *Bay Rum and Cantharides*: "Contains cantharidin 0.00025 per cent.—Poison" is better expressed as the tr. cantharidini percentage. The declarations of the amount of the tinctures in the other hair washes are correct.

Bruno (14/12).—(1) *Cough Cure*: As the formula contains morph. hydrochl. in the tr. chlorof. et morph. B.P. '85 sine ac. hydrocyan. and in addition 78 gr. of morph. hydrochlor. it would be better to declare the amount of that alkaloid. It would appear that 12oz. of tinc-

ture=12 gr. of morphine, equivalent to 90 gr. in 30 lb., or 0.004 per cent. (2) *Rheumatic Mixture*: Label "Contains tr. digit. B.P. 1/16 and tr. hyos. B.P. 1/53.—Poison." (3) *Blood Purifier*: Label "Contains liq. arsen. B.P. 2.1 minims in an ounce—Poison." (4) *Diarrhoea Mixture*: "Contains tr. opii B.P. 1/50—Poison." (5) *Neuralgia Mixture*: "Contains tr. gelsem. B.P. 1/30—Poison." (6) *Chilblain Lotion*: "Contains lin. bellad. B.P. 1/8—Poison."

W. T. G. (14/12) refers to a reply to an inquiry given in the *C. & D.*, December 12, p. 847. He states that the property he owns is being acquired by the Council compulsorily under the "Land Clauses Acts as modified by the Acquisition of Land (Assessment of Compensation) Act, 1919." His property is let to a tenant who is in possession. Can "W. T. G." retain the portion of his property which is not required by the Council, and must the Council compensate the tenant separately? [The Council cannot compel "W. T. G." to sell the portion of his property which is not essential for the scheme to be carried out. The claims to compensation for disturbance of "W. T. G." and his tenant will be dealt with separately, and the Council will have to compensate both. We advise "W. T. G." to consult a surveyor who has had experience of compulsory purchase.]

J. M. W. L. (12/11).—A patient had his lower teeth extracted by a dentist in March 1923, and as one of the teeth was broken in the process he suffered a good deal of discomfort at the time. In June 1924 the dentist supplied a set of teeth for the lower jaw, but the patient could not wear it, as it did not fit. The dentist tried to make the plate fit better, but without success, and recently the patient returned the plate to the dentist upon the ground that it was of no use. Upon this occasion the patient refused to allow the dentist to attempt to make a fit, and called for his account. The account charges for the extractions and for the time taken in remaking the denture twice. Must the patient pay for this? [The dentist is entitled to be paid for anything that he has done in the performance of which he exhibited reasonable skill and care. It is therefore a question of fact whether or not the extractions and the making of the plate were done by him in such a way as to justify his charging for them. It would appear that if the dentist failed to supply a satisfactory denture within the time shown he could not have shown the requisite amount of skill, and consequently is not entitled to charge for making or altering the plate. We advise the patient to refuse to pay for the plate, and, if he is pressed for payment, to consult a solicitor.]

R. L. (8/12) wishes to know what is the procedure to be followed to make an application for a licence to sell medicated wine. He intends to apply at the local licensing court in February next, and asks if he requires to be represented by a solicitor at the court. [A notice in writing has to be made out of the application, giving the name and address of the applicant, a description of the licence, and the situation of the premises for which the licence is asked. This notice must be served on (a) one of the overseers of the poor twenty-one days before the application is made, (b) the superintendent of police for the district a like period before, and (c) the clerk to the licensing justices, also twenty-one days before. The service in either case may be by registered post. The notice must also be affixed and kept up, between 10 a.m. and 5 p.m., on two consecutive Sundays within twenty-eight days before application is made on the door of the house for which the licence is desired, and also upon the door of the parish church or chapel. The notice must also be advertised in some local paper on some day not more than four and not less than two weeks before the application is made, and on such other days (if any) as the licensing justices may fix. A licence, when granted, is not operative until confirmed by the confirming authority, which is generally Quarter Sessions. The licence will be an ordinary wine "off" licence, probably endorsed with a condition that only medicated wine is to be sold under it. When the justices' licence has been obtained the Excise licence has to be taken out. An application for a licence can be made by an applicant in person.]

Miscellaneous Inquiries

When samples are sent particulars should be supplied to us as to their origin, what they are, what they are used for and how. We do not undertake to analyse and report upon proprietary articles nor to publish supposed formulas for them.

J. S. (27/7).—POWDER FOR RACING DOGS.—This is a white powder containing a small quantity of nux vomica or a preparation thereof, acidified with cream of tartar and diluted with sugar of milk or glucose. The sample was too small to allow of a further examination.

Plus (6/9).—MINERAL FROM A PIT.—This specimen is in the form of agglomerated particles of a dull golden-yellow colour. It has been identified as a mica schist. Chemically the main constituent is the mica proper, in association with very small quantities of iron and calcium compounds.

Saorstat (16/9).—DOG CONDITION POWDER.—This is a white powder consisting almost entirely of sugar of milk. No medicament was definitely recognised, but there appears to be a trace of arsenic. It may be, therefore, a homœopathic trituration of arsenic. It should be borne in mind that small but fully medicinal quantities of vegetable tinctures and the like may be dried down in sugar of milk without imparting any obvious character to the powder.

B. & V. (28/9).—(1) TOOTHACHE ESSENCES not containing scheduled poisons. The following are suitable:—

P.F. 8	P.F. 25
Camphore ... 3iss.	Ol. caryoph.
Ras. santal. rub. ... 9j.	Tr. benz. co.
Ol. caryoph. ... 5vj.	Spt. camph. ... aa. p. æq.
Spt. vini rect. ... ad 5vj.	

(2) CORN CURES.—See *C. & D. Diary*, 1926, p. 271.

S. G. (23/10).—POWDER USED FOR SOLDERING.—This is composed of ammonium chloride and zinc chloride, say half an ounce of the latter to one pound of the former.

E. D. (29/11).—ARTIFICIAL ESSENCE OF MUSK.—The variety used as a remedy for whooping cough is made as follows:—

Ol. succini ...	5ij.
Ac. nitrici ...	5vj.

Macerate until resin separates, wash this with water and add

Spt. vini rect. ...	5ix.
Spt. aether. nit. ...	5x.

Dissolve and filter.

Dose for children: mx. xx. or up to 5j., according to age, diluted, three times a day.

J. G., Ltd. (1/12).—We have traced the formula for Children's Cherry Cough Syrup (P.F., p. 777), and find that the quantity of syr. viole should be 3v.

M. H. (1/12).—BOOKS ON RADIOACTIVITY.—The following books on radioactivity will probably suit your purpose: John B. Kramer and J. Hall-Edwards: "Radiations from Slow-Radium" (Baillière, Tindall & Cox); J. Muir: "A Manual of Practical X-Ray Work" (W. Heinemann); R. Knox: "Radiography and Radio-Therapeutics" (A. & C. Black, Ltd.); Medical Research Council: "Medical Uses of Radium"; S. Forsdike: "Effects of Radium upon Living Tissues"; G. H. Varley: "Radium, its Therapeutic Effects in General Practice" (Oxford University Press); B. Kroenig and W. Friedrich: "The Principles of Physics and Biology of Radiation Therapy" (W. Heinemann).

A. F. N. (2/12).—We cannot undertake to search for equivalent formulas to those you use.

P. & L. (2/12).—PRESCRIPTION PRICE.—The following is the charge for the prescription priced on the *C. & D.* Costing System:—

	d.
Aspirin ...	5v. 6.0
Phenazone ...	grs. 100 7.0
Caffein ...	grs. 20 2.0
Mucilag. ...	5ss. 1.5
Aq. menth. pip. ...	ad 5x. 16.0
Container ...	3.0
Dispensing fee ...	8.0

Charge 3s. 8d. 43.5d.

W. R. O. (2/12).—(1) DEPILATORY FREE OF SCHEDULED POISON.—This variety is made with calcium sulphide or sodium sulphide. The latter is the most convenient, but should not be stronger than 10 per cent. in a base of starch paste. This has a tendency to lose its activity on keeping. (2) You must give further particulars as to the "deodorant" for which you require a formula.

J. G. N. (3/12).—FIRE EXTINGUISHING POWDERS.—These two powders are intended for use together. The first, marked "No. 1," is strongly acid in reaction, and contains aluminium, sodium and sulphate as its essential components; it is therefore probably a mixture of aluminium sulphate or alum, with sodium bisulphate. The other, marked "No. 2," consists of sodium bicarbonate, with only a little organic starchy matter, which was not identified, but would pass as boiled oatmeal.

C. K. (4/12).—Thin liquid paraffin should be used in place of lamp oil for the hair. There is no virtue in the smell of ordinary paraffin, but considerable danger in using the crude oil on the head and skin. Some people use the crude oil on the principle that medicines must be nasty.

E. M. (7/12).—FUMIGATING RIBBON.—The following is a suitable solution for soaking ribbon intended for fumigation purpose:—

Olibanum ...	3ij.
Storax ...	3j.
Benzoin ...	5vj.
Peru balsam ...	5ss.
Tolu balsam ...	5ij.
Spirit ...	5x.

Macerate ten days and filter.

J. G. (7/12).—COMPOSITION OF PROPRIETARY MEDICINES.—The best sources for the information you require about patent medicines and preservatives are as follows: Report of the Select Committee on Patent Medicines, 1914; Report of the Departmental Committee on the Use of Preservatives and Colouring Matters in Food, 1901; "Secret Remedies," and "More Secret Remedies," published in 1909 and 1912 by the British Medical Association.

F. C. M. (8/12).—The plaster casts are of no value, as it would cost too much to grind them to powder for use as a distemper, in view of the cheapness of whitening. The casts might be useful broken up for garden paths.

Retrospect of Fifty Years Ago

Reprinted from

"The Chemist and Druggist," December 15, 1875

The Growth and Uses of Benzoin

(From an article with this title.)

The benzoin, or frankincense, in commercial parlance called "Benjamin," is a more common article of commerce than camphor. Although in general regard for the ceremonies of the Romish, Mahomedan, Hindu, and Chinese worship, there is no evidence that the Greeks or Romans, or even the early Arabian physicians, had any acquaintance with benzoin; nor is the drug to be recognised among the commodities which were conveyed to China by the Arab and Persian traders between the tenth and thirteenth centuries, although the camphor of Sumatra is expressly named. The first mention of benzoin occurs in the "Travels of Ibn Batuta," who having visited Sumatra during his journey through the East, A.D. 1325-49, notes that the island produces *Java Frankincense* and camphor. There is no further information about the drug until the latter half of the following century, when it is recorded that in 1461 the Sultan of Egypt sent to Pasquale Malipiero, Doge of Venice, amongst other articles, a present of 30 *rotoli* of Benzoin. Agostino Barberigo, another Doge of Venice, was presented in similar manner, by the Sultan of Egypt, with 35 *rotoli* of aloes wood, the same quantity of Benzoin, and 100 loaves of sugar. The occurrence of benzoin in Siam is noted in the journal of the voyage of Vasco da Gama, and the Portuguese traveller Barbosa, who visited Calicut, on the Malabar coast, in 1511, mentions Benzoin among the more valuable items of export. In the early part of the seventeenth century there was direct commercial intercourse between England and both Siam and Sumatra. An English factory existed at Siam until 1623, and benzoin was doubtless one of the commodities exported.



[Commenced C. & D., July 5, 1924]

"Diseases and Remedies."—One of the *C. & D.* text-books; first edition published in 1898, fifth edition (pp. 264, 5s.) published in 1916 and reprinted in 1921. The basis of the manual was provided by physicians of repute, whose acquaintance with pharmacists enabled them to discuss questions of medical treatment in a friendly manner. The importance of a knowledge of disease for the chemist in business is self-evident.

Disinfectants, Standards for.—The germicidal value of a disinfectant is frequently designated by a "carbolic acid coefficient." This means that its bactericidal power, compared with that of carbolic acid, has been determined under certain specified conditions. Thus the original Rideal-Walker method used *B. Typhosus* as a test organism, whilst the Lancet Commission utilised *B. Coli* instead. Other workers add organic matter (such as faeces or urine). Accordingly the standards for each disinfectant may vary considerably according to the conditions of the test, which should be designated in any specification of carbolic acid coefficient. Variation occurs to a much less extent according to the technique of the individual experiment. Carbolic acid coefficients may be specified in contracts by public bodies for coal tar disinfectants, and are used by makers of high-class proprietary cresylic disinfectants to standardise their products. For practical purposes it is necessary to know not only the carbolic acid coefficient of a disinfectant, but also to take into account its physical and chemical properties and the purpose for which the disinfectant is to be used. Thus it is misleading to compare mercury bichloride with carbolic acid. Dr. W. H. Martindale, who has done a large amount of original work on this subject, gives in the "Extra Pharmacopœia" the following results obtained with coal-tar disinfectants:—

	Co-efficients	Phenols or Phenoloids
A.—Forming emulsions with water		
Cofectant	9.8	66.27
Sanitas Bactox	9.5	39.7
Sanitas Okol	8.9	48.5
Cyllin ("bulk")	8.8	40.41
McDougall's M.O.H. fluid	7.9	47.13
Kerol	7.7	40.56
Izal	7.4	41.35
Cyllin (medical)	6.4	32.08
Pearson's Antiseptic Fluid	2.2	20.7
Jeyes' (chemists')	1.7	17.8
Lawes'	1.6	28.2
Zotal	1.5	10.0
Krysyl	1.3	14.16
Jeyes' No. 2 (grocers')	0.75	5.13
B.—Clear with water		
Crude carbolic acid	4.2	82.65
Trikrisol	2.5	—
Calvert's No. 5 carbolic acid	2.5	93.26
Lysol	1.7	50.96

Disinfectants as Poisons.—Carbolic acid and its liquid preparations or its homologues are poisonous disinfectants. They are within the Poisons and Pharmacy Act, 1908, Part II of the Schedule. A powder containing carbolic acid is not included within this definition. Any liquid preparation of a strength below 3 per cent. may be sold subject to the conditions that it is labelled "Poisonous" and "Not to be taken," and that the container is distinguishable by touch, and that it bears the name and address of the seller. It is necessary to distinguish between the terms "disinfectant" and "antiseptic" (q.v.). There are some other disinfectants which do not come within the Poisons Schedule; they are largely

of an oxidising character—potassium permanganate is a typical example. Another kind is one that depends on chlorine, of which chlorinated lime is an example. Others depend upon an odorous principle; these are not poisons within the meaning of the Poisons and Pharmacy Act, 1908.

Dispensers' Appointments and Qualifications.—Registered chemists and druggists (and, in some instances, other persons) are eligible for dispenserships in the Forces and in the public services. The following are the principal classes of position open:—

Army.—The syllabus of instruction for dispensers in the Royal Army Medical Corps was given in the *C. & D.*, I, 1924, p. 773. The course, covering nine months in all, is divided into two parts. Holders of the Qualifying examination certificate of the Pharmaceutical Society have to pass an examination in subjects appertaining to equipment and medical stores. **Mental Hospitals.**—The rate of pay for dispensing chemists in the London County mental hospital service is:—Men, £150 per annum, rising by £10 annually to £220; women (with one exception), £125, rising by £7 10s. annually to £185. Temporary additions to meet the cost of living are paid. **Navy.**—Assistant pharmacists (whose age on entry must not be less than twenty-one or more than twenty-eight years) are required to hold the Major or Qualifying certificate of the Pharmaceutical Society of Great Britain, or "the certificate of competency" of the Pharmaceutical Society of Ireland. Entry is by competition. The salary begins at £120 per annum (with quarters for unmarried men, civil service bonus, and other allowances), and rises by £5 annually to £170. **Poor Law Institutions.**—Appointments in the Poor Law service, now controlled by the Ministry of Health, are open to chemists and druggists and a few other classes of dispensers. Salaries vary. **Prison Commission.**—The rates of pay and allowances for pharmacists in the prison service are £2 8s. a week, rising to £3 10s., plus a Civil Service temporary bonus, and with medical attendance and medicines in certain conditions. Uniform and quarters are provided, or 9s. 6d. a week in lieu. Candidates for appointment must hold the Pharmaceutical Society's qualification, and it is necessary that they be within the prescribed age limits (24 to 35 years). A preliminary examination (fee, 7s. 6d.) must be passed.

Dispenser's Qualification.—The term "dispenser" is one which was used first as a designation of the one who compounds medicines for a medical practitioner or in an institution. Later, the term was applied to the assistant of a chemist and druggist, to whom the duty of dispensing prescriptions was allotted. There is no restrictive right in the title for anyone, and the term has little meaning without some further definition. By ancient usage, in a public institution, the person in charge of the dispensing is termed the dispenser; but the further question is now asked, "Is he or she qualified?" This, again, is not explicit owing to the misuse of terms, as the qualification granted by the Society of Apothecaries is to act as an assistant or dispenser to an apothecary; yet the term "qualified dispenser" is generally used by those who possess this certificate to dispense. Again, the term "dispenser" in the Army has come to be employed instead of "Army compounder," and the only qualification is a restricted examination and training by the medical staff. Strictly speaking, the only "qualified dispenser," without any further elaboration of the title, is the person who is on the Registers of the Pharmaceutical Society kept under the Pharmacy Acts, 1852 and 1868. The latter Act legally recognises persons keeping open shop for the retailing, dispensing or compounding of poisons; consequently, any person not keeping open shop can dispense poisons, and even within a shop other medicines not containing a poison can be dispensed. The tendency, however, is for public bodies to require the same qualification for those holding public appointments as is required to dispense all kinds of medicines in an open shop. The larger institutions require the chief to hold the pharmaceutical chemist qualification, and all assistants to hold, at least, that of a chemist and druggist. Their titles then become "pharmaceutist," "pharmacist," or "the chemist." Sometimes they are miscalled "the apothecary"; but the term "dispenser" in institutional

The C. & D. Commercial Compendium

circles is more and more coming to mean a pharmacist or pharmacist, and the qualifications are those granted under the Acts of 1852 and 1868 respectively by the Pharmaceutical Society of Great Britain.

Dispensing: Charges.—Many methods have been adopted for allotting prices for dispensing. Early records show that charges were based on a flat rate, varying according to the dosage and frequency. So far as simple prescriptions were concerned there was, no doubt, a reasonable profit; but the introduction of more costly medicaments made it clear that additional charges must be made or a loss ensued. Apart from those who followed the dispensing price lists of Edinburgh, Glasgow, and Liverpool, the charges were usually an estimation by the individual based on so much per ingredient, and an additional amount to make a round figure. This crude method laid the foundation of the demand for marking prescriptions by letters to indicate the dispensing price as a guide to future dispensers. The inflation of costs owing to the European war made it impossible to avoid the appearance (to the public) of a loose style in affixing prices for dispensing. From 1916 onwards various efforts were made by Allen (London), Hammond (Sheffield), Phillips (Herne Bay), Skinner (London), and the Bournemouth Association to put prices on a stabilised basis. Success was only partial. Finally, arising from a minute investigation of overhead charges and costs consequent upon the Profiteering Act, 1920, a method was devised based upon the findings of the Departmental Committee on the National Insurance Act drug tariff in 1915. Though the fundamental basis of the Insurance method of charging for ingredients, to which was added an estimate for establishment charges and a dispensing fee, was constructed on insufficient data, the principle was adopted; and, later, the original idea was obscured by merging establishment charge and fee into one so that the person bears the oncost rather than the goods. The true method is that each medicament should be priced at such a figure so as to include all appropriate costs, and to this is added the personal cost or dispensing charge. This latter figure is arrived at by considering the factors such as space and time, and balancing out to an agreed unit, to which is added the appropriate profit. In the case of medicaments the charges are based on an increased number of factors, one of the most important being frequency. Dispensing is a sale *plus* something else termed skill; consequently there are always two charges, and though they vary according to the factors mentioned, it is a fallacy to make a charge vary on the dispensing side because of a larger container, which is reducing dispensing charges to an absurdity. The method outlined is the costing system; its figures may vary from lack of data, but, on the average, it is the only method which provides for uniformity. The *C. & D.* system was introduced on January 1, 1921, and has stood rigid examination and testing. It provides the only costing method at present available for dispensing charges. There is a rapid method of charging also given in the *C. & D. Retail Price List*, which is a very ancient way; it gives satisfactory results just so far as the medicaments are few in number and not costly. The costing method consists of the selling price of medicaments arrived at on a costing basis, and a special oncost for time and labour, which naturally varies according to the method of presentment of the medicaments. Uniformity, so eminently desirable, is obtained by adopting the scientific costing system in dispensing charges, and, to make doubly sure, by adding the source of the method in the stamp (such as *C. & D.*).

Dispensing Doctors: Poison Requirements.—The Pharmacy Act, 1868, Section 16, provided for the exclusion from its restrictions of apothecaries and veterinary surgeons; Section 17, which provides regulations to be observed in the sale of poisons, is not to apply to any medicine supplied by a legally qualified apothecary to his patient; and Section 3 of the Amending Act of 1869 exempts from Section 17 of the 1868 Act, "any medicine

supplied by a legally qualified medical practitioner to his patient, provided such medicine be distinctly labelled with the name and address of the seller, and the ingredients thereof be entered, with the name of the person to whom it is sold or delivered, in a book to be kept by the seller for that purpose." Section 17 of the 1868 Act defines labelling of poisons and selling thereof. Under the Dangerous Drugs Act, 1920, and its Regulations (1921), medical men who do their own dispensing must comply with the conditions set out so far as concerns recording the particulars of the distribution of "dangerous" drugs to patients in the register set apart.

Dispensing for Doctors: Charges.—Where dispensing is undertaken for local doctors, the charges are usually arranged on one of two flat-rate systems—(1) by taking a definite discount off the prices given in the "Rapid Method" of the *C. & D. Retail Price List* (p. 11 of the current issue), or (2) by fixing empirically a standard for average mixtures, pills, ointments and so forth. In one instance before us, method (2) was used over a long period, the standard price for 8-oz. mixtures being laid down on the understanding that such mixtures would contain chemicals of average cost and not more than 5vj. of 60 per cent. alcohol in the form of tinctures, concentrated infusions, etc. Two points that arise in deciding on a scale of fees are whether the medicines are to be delivered to the patients and whether the dispensing is worth anything as a means of bringing further custom to the shop.

Dispensing Labels: Legal Requirements.—Section 17 of the Pharmacy Act, 1868, lays down that medicines which contain a poison shall bear the name and address of the seller on the label. The regulations on keeping, dispensing, and selling poisons under section 1 of the Pharmacy Act, 1898, state that in the dispensing and selling of poisons, all liniments, embrocations, lotions and liquid disinfectants containing a poison must bear (in addition to the name of the article, and to any particular instructions for its use) a label giving notice that the contents of the bottle are not to be taken internally.

Dispensing: Pharmacy Acts Requirements.—The Pharmacy Act, 1868, provided restrictions on retailing, dispensing, or compounding poisons in a shop kept open for the purpose. There is no provision affecting medicine if it does not contain a poison. The Act lays down the provision governing sales of poison, and, as dispensing comes within the definition of a sale, it was necessary to provide exemption for medicines, and introduce a modification so as not to interfere with prescribing. In the Arsenic Act, 1851, the exemption provides that the conditions of sale laid down shall not apply when forming a part of the ingredients of any medicine required to be made up or compounded according to the prescription of a *legally qualified medical practitioner*; but the Pharmacy Act, 1868, omitted the words in italics. The conditions are set out in Section 17 of the Pharmacy Act, 1868: "Nor shall apply to any medicine supplied by a legally qualified apothecary to his patient, nor apply to any article when forming part of the ingredients of any medicine dispensed by a person registered under this Act: provided such medicine be labelled with the name and address of the seller, and the ingredients thereof be entered, with the name and address of the person to whom it is sold or delivered, in a book to be kept by the seller for that purpose." The book is usually termed the prescription-book. The Amending Act of 1869 clarified the above statement in Section 3, which used the term "any medicine," and covered legally qualified medical men. Prescriptions containing poisons under the National Health Insurance Act, 1911, are by Section 4 of the Dangerous Drugs and Poisons (Amendment) Act, 1923, exempted from being copied in the prescription-book. This exemption does not apply to medicines coming within the Dangerous Drugs Act, 1920; such medicines must be entered in the register under that Act, or, as an alternative, in the prescription-book with a cross-reference in the "dangerous" drugs register.

The C.&D. Commercial Compendium

Dispensing: Records.—More than one system of keeping records of shop dispensing has been given from time to time in *THE CHEMIST AND DRUGGIST*, and "The Art of Dispensing" contains a specimen arrangement in column form planned for a sheet or page $7\frac{1}{2}$ inches wide. The following is an extract from an article in the *C. & D.*, II, 1911, p. 168:—

Date	Name	No.	Item	—	Price
Nov. 16 ..	Smith	12804	Lot	E	s. d. 1 0
	"	12686	Mist.	E	1 6
	Brown	12637	M	P	1 4
	Jones	9081	Tab.	E	0 10
	Robinson(a) ..	12805	M	E	1 6

It was explained by the author that "a" indicates an addition noted on the prescription; "E" and "P" stand for entry in day book and for cash payment respectively. Another system communicated about the same time (*C. & D.*, II, 1911, p. 304) by a correspondent was on similar but rather different lines—thus:—

Mon..					
July 31.	Cameron, Miss, Woodlea				
1/3 Pd.	Rep. Lin.	14378	A. McK.		
	Thomson, Master, 3 Walmer				
	Road				
— } a/c	Mixture (2 bots.) ..	7843			
6d. }	Powders	7844			

The addresses in the latter example were entered into an indexed book, which proved useful when circulars were to be distributed or when an inaccurate address had been taken down. The initials in the right-hand column were those of the dispenser. Whatever system may be adopted, it is wise to make sure that it is one that will save work and prove a safeguard against error.

Dissolution of a Company.—The dissolution commonly takes place as an incident of the winding up of the company. A company is wound up either (1) voluntarily, or (2) by order of the Court, or (3) voluntarily but under the supervision of the Court. A company may be wound up voluntarily when (a) the period, if any, fixed by the articles of the company for its duration has expired, or the event has happened on the happening of which it was provided that it should be wound up, and a resolution to wind up voluntarily is passed; or (b) the company passes a special resolution that it be wound up voluntarily; or (c) the company resolves by extraordinary resolution that it cannot by reason of its liabilities continue its business and that it is desirable it be wound up. An extraordinary resolution is one passed by at least three-fourths of those present at a properly convened meeting of the company. When an extraordinary resolution has been passed at a duly convened meeting, not less than fourteen days and not more than a month after the meeting when it was first passed, it becomes a "special" resolution. On the winding up being resolved upon, a liquidator is appointed, and he must then within twenty-one days file with the Registrar of Joint Stock Companies notice of his appointment. After the winding up commences the company must cease to carry on its business except in so far as it may be necessary for the purposes of the winding up. It is the duty of the liquidator to distribute the assets of the company, observing in doing so the following order of priority. He is first to pay all costs and charges properly incurred in connection with the winding up, including any fees due to himself as liquidator; next, he must discharge the company's liabilities to its creditors; and then, unless the articles of the company otherwise provide, he is to divide what remains among the shareholders of the company according to their respective interests and priorities. While a company is in course of being voluntarily wound up the Court may, on an application made either by the liquidator or by a creditor or shareholder, order the winding up to be by the Court. Upon the completion of a voluntary winding up the liquidator must make out an account showing how the property has been disposed of. He has then to call a general meeting, before which the

account is laid, and within seven days thereafter he must send notice of the meeting to the Registrar. The notice is then registered, and after the lapse of three months the company is dissolved. The Court has power to order the compulsory winding up of a company if either (1) the company has by special resolution resolved that it be wound up by the Court, or (2) default has been made in filing the statutory report or holding the statutory meeting, or (3) the company does not commence business within one year of incorporation, or suspends its business for a whole year, or (4) the number of members is reduced, in the case of a private company, below two, or, in the case of any other company, below seven, or (5) if the company is unable to pay its debts, or (6) the company is of opinion that it is just and equitable that it should be wound up, or (7) it can be shown that some other winding up then in progress cannot be continued with due regard to the interests of creditors or contributories. The order to wind up is made on application being made by the company itself or by one or more of its creditors or contributories, or, in the case of an existing winding up, by the official receiver. The Act lays down that a company is to be taken to be unable to pay its debts if a creditor of the company to whom the company is indebted in a sum exceeding £50 has served on the company a demand in writing requiring it to pay the sum so due, and the company has for three weeks thereafter neglected to pay the sum or to secure or compound for it to the reasonable satisfaction of the creditor; or, if execution has been issued on a judgment or order of the Court in favour of a creditor of the company, and is returned unsatisfied. When the winding-up order is made, the Court appoints a liquidator for the purpose of conducting the proceedings in the winding up and performing such duties in reference to it as the Court may impose. When the affairs of the company have been completely wound up, the Court makes an order that the company be dissolved from the date specified on the order, and it is dissolved accordingly. The order has to be sent by the liquidator to the Registrar, and the company ceases to exist. But where a company has been dissolved, the Court may at any time within two years, on an application made by the liquidator or by any other person interested, make an order declaring the dissolution to have been void, and thereupon matters are placed in the position in which they would have been if the dissolution had not taken place. The applicant has within seven days to inform the Registrar of the order. Where a resolution for a voluntary liquidation has been passed, the Court may, if applied to, order that the winding up shall take place subject to the supervision of the Court. Notwithstanding such order, the liquidator may continue to exercise his functions subject to any restrictions imposed by the Court, but the order may provide for the appointment of an additional liquidator. There is a further summary method of dissolving a company provided for by the Companies Acts. If the Registrar has reasonable cause to believe that a company is not carrying on business, he is to send a letter of inquiry to the company. If he gets no answer to this within one month, he is to send another letter, this time by registered post, and if to this he gets no reply, he may put a notice in the "Gazette" to the effect that at the expiration of three months the name of the company will be struck off the register and the company dissolved. At the expiration of this period dissolution takes place accordingly.

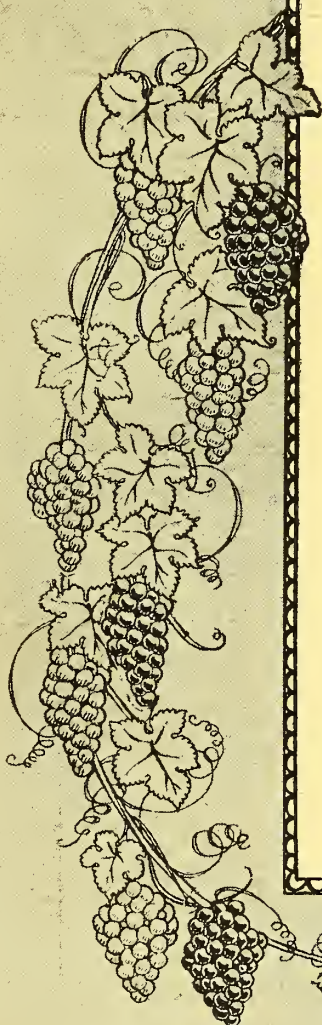
Dissolution of Partnership.—If provision is made in a contract of partnership as to how it is to be dissolved, this is to be followed. In the absence of such provision the following rules apply. If a partnership was entered into for a fixed term, it comes to an end at the expiration of that term, although the rights and obligations of the partners may continue after the dissolution, so far as may be necessary to wind up the affairs of the partnership. And if the business is continued after the term has expired without any winding up of the partnership affairs, there is presumed to be a fresh partnership at will

The C.&D. Commercial Compendium

embodying the provisions of the old partnership contract. If a partnership has been entered into for a single undertaking, it comes to an end when that undertaking is finished. If a partnership is entered into for an undefined time, it can be dissolved by any partner giving to the other partners notice of his intention to dissolve it. A notice once served cannot be withdrawn without the consent of all the partners served. A partnership is also dissolved by the death or bankruptcy of any partner; and if a partner allows his share of the partnership to be charged for a personal debt of his, the other partners may, if they wish, dissolve the partnership. A partnership valid at its inception may also become subsequently illegal and dissolved, as in the case of a partnership with a foreigner between whose country and the United Kingdom war has broken out. A partner is also entitled to apply to the Court to dissolve the partnership if:—(a) Any of the partners becomes a lunatic or of permanently unsound mind; or (b) any other partner becomes in any way permanently incapable of performing his part of the partnership agreement; or (c) any other partner wilfully and persistently commits a breach of the partnership agreement; or (d) such other partner is guilty of such conduct as is calculated to affect prejudicially the carrying on of the business; or (e) the business of the partnership can only be carried on at a loss. And in general the Court may dissolve a partnership when it can be shown that it is just and equitable that dissolution should take place; but it will not do so on the application of the partner who has himself been guilty of the misconduct which is ground for dissolution. Sometimes the partnership agreement provides that on the retirement or death of a partner the remaining partner or partners shall have the option to purchase his share on certain terms. If there is no such provision, or if it is not complied with, the outgoing partner or his estate is entitled to either interest at 5 per cent. on the share, or to such share of the profits made after dissolution as is attributable to the use of the share. When a dissolution has taken place, any partner is entitled to give public notice of it, and to call upon the other partners to join in giving the notice. This notice, if given in the "Gazette," frees a retiring partner from liability for any future contracts of the firm, except in the case of contracts made with persons already customers of the firm. These should be expressly notified of the dissolution. If there is no agreement on the subject between the partners the rule for the disposition of the partnership property on dissolution is:—(a) Losses, including losses of capital, are payable first out of profits, next out of capital, and, lastly, in case of deficiency, by the partners individually in the proportion in which they were entitled to share the partnership profits, or in case of the insolvency of one partner by the remaining partner or partners; (b) the assets of the firm, including the sums, if any, contributed by the partners to make up deficiencies of capital, and including the value of the goodwill of the business, are then to be used:—(1) In paying the liabilities of the firm to the persons who are not partners; (2) in repaying rateably to each partner advances made by him to the firm as distinct from capital; (3) in repaying to each partner rateably what is due to him in respect of capital; (4) the residue, if any, is to be divided among the partners in the proportion in which the profits of the partnership were divisible. One special type of partnership deserves attention. If a partner pays a premium on entering into a partnership for a fixed period of time and there is a dissolution otherwise than by the death of a partner before the period has expired, the Court may, if applied to, order the return of the premium or a portion of it unless either the dissolution was wholly or chiefly due to the misconduct of the partner who paid the premium, or the partnership was dissolved by an agreement, which contained no provision for a return of the premium. (*See also Partnership.*)

Distilling: Restrictions.—Every person who makes or keeps wash prepared or fit for distillation, or low wines or feints, and has in his possession or use a still is in law a distiller, and is required to hold a distiller's Excise licence. The licence costs from £10 upwards, according to

the quantity of spirits made in the preceding year, and has to be renewed annually. No one is entitled to obtain a licence for a distillery situate at a place more than a quarter of a mile from a market town; but the Commissioners of Customs and Excise may waive this disability on condition the distiller makes provision for lodging for the officials to be employed at the distillery. Nor can anyone use as a distillery premises which are within a quarter of a mile of any premises entered or used for rectifying or compounding spirits or for receiving or keeping spirits by a rectifier. Further, the premises of a distiller may not be upon or internally connected with premises upon which there is carried on the business of a brewer of beer or a maker of sweets, vinegar, cider, or perry, of a refiner of sugar, or of a dealer in or retailer of spirits, or of a dealer in or retailer of wine; and the distiller must not himself be a dealer in or retailer of spirits within two miles of his distillery. In England, if a distiller has a still which is of less capacity than 3,000 gallons he is not allowed to keep or use in his distillery at the same time more than two wash stills and two low wines stills; and anywhere in the United Kingdom a person will not be licensed to keep a still of less capacity than 400 gallons unless he has also in use a still of that capacity or he produces to the Commissioners a certificate of three justices that he is of good character and fit and proper to hold a licence. And even if the certificate is forthcoming the Commissioners may still refuse, but they are required to give their reasons for doing so, in writing, to the justices. A distiller is required to provide and keep provided at his distillery a secure spirit store into which all the spirits made at his distillery pass, and into which no spirits made elsewhere may be introduced. Very stringent rules are laid down as to the vessels which a distiller may and the vessels which he may not keep or use in his distillery, the object being to ensure that the production of the spirits may follow a course which the Excise officials in charge of the distillery shall be able to anticipate and control. The purpose for which each vessel or utensil is to be used has also to be specified in writing by the distiller before he begins to work, and no deviation is afterwards allowed in the uses to which these may be put. A distiller is not allowed to distil wort or wash made elsewhere than at his distillery; but the only requirement as to the material used for making the wash is that it must be such that the gravity can be obtained by the official saccharometer. But perhaps the most distinctive restriction on the freedom of working of a distiller is that which requires distinct brewing and distilling periods. The period of brewing or making wort or wash and the period of distilling spirits must in every distillery be alternate and distinct. It is also unlawful for a distiller to make wort or wash or to use a still between 11 p.m. on Saturday and 1 a.m. on the Monday following. In addition to distillers having distillery premises, there are certain traders whose Excise licences import the right to keep or use a still in the ordinary course of their business. Such are rectifiers or compounders of spirits, motor-spirit makers or refiners, and vinegar makers. Any other person who keeps or uses a still or retort must take out an annual licence, the cost of which is 10s. A still for this purpose includes any part of a still and any distilling apparatus whatever for distilling or making spirits. But the holder of a licence to keep a still may under the licence keep any number of approved stills. The Commissioners require a still licence to be held for a water still when the actual content of the still is one gallon or upwards. In certain cases exemption from licence is allowed. Thus manufacturers of coal-gas do not require a licence for the use of an ordinary retort; nor do licensed motor-spirit manufacturers for stills used solely for making or refining motor-spirit; and where a still is used for the distillation of tar or tar products and no spirit or spirit or spirit mixture is used or produced, a licence need not be taken out; nor need a still licence be obtained for duly registered alkali works. Permission to use a still without licence may be obtained on application to the appropriate surveyor of Customs and Excise by professional chemists and persons desiring to use a still for experiments in chemistry.



J. C. ENO LTD

send

Greetings

*to all their
Customers & Friends
and wish them*

**HEALTH
HAPPINESS &
PROSPERITY**

this

Christmastide

and throughout

1926



“FRUIT SALT” WORKS, LONDON, S.E.14.

WHIFFEN & SONS, LTD.

INCORPORATING

GEORGE ATKINSON & CO.

BATTERSEA and FULHAM

LONDON, S.W.

Manufacturers of

ATROPINE
ALMOND OIL
CLOVE OIL
CAFFEINE
CAMPHOR



NICOTINE
QUININE
STRYCHNINE
THEOBROMINE
VERMILION

BROMIDES

IODIDES

SALICIN

EMETINE

TELEPHONE:
PUTNEY
3993 (3 lines)

CODES:
A.B.C., 4th, 5th & 6th.
BENTLEY'S and LIEBER'S.

TELEGRAMS:
WHIFFEN-LONDON.
CAMPHOR-WALGREEN-LONDON.

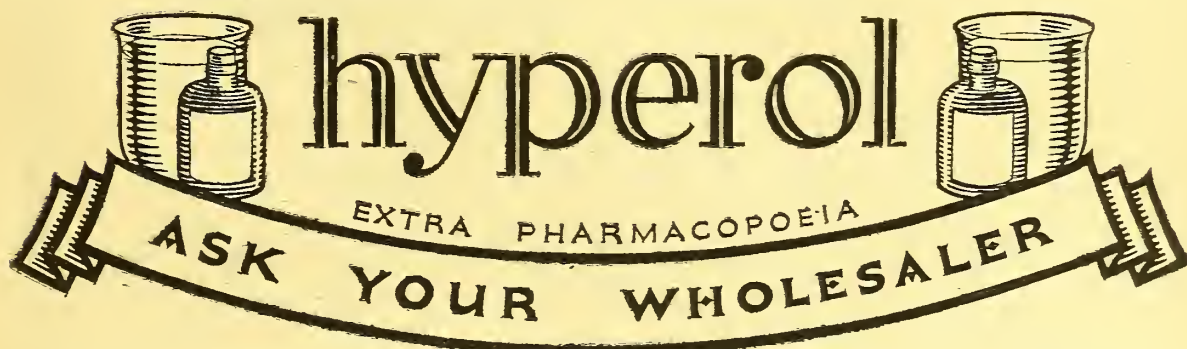
SOLID HYDROGEN PEROXIDE

P.A.T.A.

The pamphlets will sell it.

ABSOLUTELY stable, 35 per cent. Hydrogen peroxide, in solid form, means big business. The public know Hydrogen peroxide. Give them Hyperol tablets (the stable irritant-free Hydrogen peroxide) as a preventive (and therapeutically the best preventive) against influenza, colds, sore-throat, and catarrh. Easily dissolved in water, the tablets should

be used as a gargle, nasal douche and general antiseptic. Hyperol is the ideal mouth-wash, being very, very good for teeth and gums. The tablets are prepared by F. W. Berk & Co., Ltd., Acid and Chemical Manufacturers since 1870, 106, Fenchurch Street, E.C.3. Ask your wholesaler—and remember the unique, free show-cards and pamphlets.



TAS. 1124.

ask
BERK

Acid & Chemical Manufacturers Since 1870

for

**LITHIUM
CARBONATE
B.P.**

ACIDS

Sulphuric
Nitric
Hydrochloric
Lactic
Hydrofluoric
Citric
Tartaric
Perchloric

**HEAVY & FINE
CHEMICALS**

Quicksilver
Mercurial Salts,
etc.
Medicinal
Chemicals
CRUDE DRUGS
American
Botanicals

Telephone: Avenue 9562 (6 lines) Wires: BERK Phone, London

F.W.BERK & CO LTD 106 FENCHURCH ST. LONDON E.C.3. Works at STRATFORD E. and MORRISTON, GLAM.

TAS. ch5..



Chemicals

ACID TANNIC LEVIS
BARBITONE (ACID & SODA)
BROMIDES
CANADA BALSAM
CHLOROPHYLL
METHYL SULPHONAL
SULPHONAL

WE SOLICIT ENQUIRIES FOR ALL PHARMACEUTICAL, GENERAL &
 PHOTOGRAPHIC CHEMICALS, also CRUDE DRUGS.

JOHNSON & SONS

Manufacturing Chemists, Ld.

23 Cross Street,
 Finsbury, E.C.2

TELEPHONE: CLERKENWELL 1660.

12 Queen Street,
 Manchester

ISO PROPYL ALCOHOL 99%

Samples and Quotations
 on application to:
 Telegrams - "Gomodor, Fen, London"

BERTRAM E. JOSEPH, 9 Mincing Lane, E.C.3

Telephone - Royal 5525

Specific Gravity 788/795.
 Boiling Point 81/83 Centi.

**STOCKS
 IN LONDON**

Pyrogallic Acid Gallic Acid

Manufactured by **J. L. ROSE, Ltd.**

At ABBEY ROAD, BARKING, LONDON, E.

Wholesale and Export only.

S. N. DE., M.Sc.
 POST BOX, 7851,
 CALCUTTA.

CASEIN

Agents:
Wheeler & Huisking Ltd.
 9 Gt. Tower St., London, E.C.3.
 Telephone: Royal 2777-8.

Telephone: CLERKENWELL 1315.

Telegrams: "ETHERMETH, SMITH, LONDON."

ALFRED WHITE & SONS, LTD. (Established 1775)

Manufacturing and Export Chemists

28-31 ALLEN ST., GOSWELL RD., LONDON, E.C.1.

ACIDS (Pure and Coml.)
BISMUTH SALTS
CHLOROFORM
CITRATES

ETHERS (all gravities)
HYPOPHOSPHITES
LIQ. AMMONIA
MERCURIALS

QUININE SALTS
SP. AMON. AROM.
SP. ETHER NIT.
IODINE PREPARATIONS, Etc.

CHEMICALS FOR RESEARCH, ANALYTICAL, PHARMACEUTICAL AND TECHNICAL PURPOSES.

THE CLAYTON ANILINE COMPANY LTD.

PHARMACEUTICAL DEPARTMENT

Sole Concessionaires for the "CIBA" BRAND Pharmaceutical Specialities

beg to announce that they have
REMOVED from Upper Thames
 Street and College Street, E.C.4, to
 more commodious premises situated at

40 SOUTHWARK ST., LONDON, S.E.1

Telephones : HOP 6954, 6955.

Telegrams : CIBADYES BOROH LONDON.

A NEW TRADE PRICE LIST WILL BE SENT ON REQUEST.

ST. EATA'S
FINEST CREAM OLIVE OIL
 LUCCA, ITALY.

FLASKS, TINS and BOTTLES.

Stocks—London, Manchester, Glasgow.

Sole Agents :

PATENT PHOSPHATES & MERCHANDISE
 6 FENNEL STREET, MANCHESTER. LTD.

SAPONINE POWDER (SOLUBLE)
 CREAM OF TARTAR 99/100% B.Ph.
 TARTARIC AND CITRIC ACIDS B.P.
 AMYL ACETATE, GINGERINE,
 CAPSICINE

Finest Essential Oil Lemon

We have large quantities for sale and
 are quoting particularly favourable prices.

C. W. FIELD, LTD.

92 WOOD STREET LIVERPOOL.

EPSOM SALTS. Commercial and B.P. Qualities
 also Powdered.
GLAUBER'S SALT. Commercial and B.P. Qualities & Desiccated.
ZINC SULPHATE. Commercial and B.P. Qualities.
ZINC CHLORIDE. Fused Granulated and Liquid.
BARIUM CHLORIDE.
HYPOSULPHITE OF SODA. Pea Crystals.
LEAD ARSENATE. Paste and Powder.
PRECIPITATED SULPHUR.

A List of our general Technical Chemicals will be sent on application.

WILLIAM
BLYTHE
& CO.
 LIMITED
 HOLLAND BANK
 CHEMICAL WORKS
CHURCH
 LANCASHIRE.

THE UNITED ALKALI CO. LTD.

CHLORIDE OF LIME

In $\frac{1}{4}$ -lb., $\frac{1}{2}$ -lb., and 1-lb. Cartons and Zinc Canisters. FOR ALL CLIMATES.

CHLOROFORM B.P. Quality

SPEEDO W.C. Bowl Cleanser and Disinfectant

"CHLOROS" Liquid Disinfectant

Invaluable for use in connection with Foot and Mouth Disease. Packed in returnable 5-gall. jars

PROMPT DELIVERY CAN BE GIVEN.

Telephone :
Bank 9280.

Head Office: CUNARD BUILDING, LIVERPOOL.

Telegrams :
"Ubique."

SOLAZZI

Liquorice Juice

The Chemist's Brand

Should any enquiries as to the composition of SOLAZZI be received from the Public, Chemists are requested to emphasise the fact that SOLAZZI is not included in the category of Secret Remedies, and that the following guarantee obtains with every parcel.

*Solazzi Juice is
guaranteed to consist entirely
of the condensed extract of
finest Calabrian Liquorice Root,
without any admixture whatever*

Thornton & Ross Ltd.

MILNSBRIDGE, HUDDERSFIELD

AMMONIA

ALL STRENGTHS

DISINFECTANTS

FOR ALL PURPOSES

CAPSULES

(CAPULVÆ)

FOR POWDERS, ETC. FILLED OR EMPTY.
IN VARIOUS SIZES AND COLOURS.

SAMPLES AND PRICES ON REQUEST.

*Santrocyl Capsules and Mosan's
Preparations*

JOHN W. MAWSON & CO., LTD.

WEST NORWOOD, LONDON, S.E.27

'Phone—STREATHAM 718.

ALKALOIDS

Fine Chemicals Opium Derivatives

SALICIN
CAPSICIN
CANTHARIDIN
PODOPHYLLIN
HYOSCYAMINE
HOMATROPINE
JALAP RESIN
IRIDIN
ALOIN
GINGERIN
LITHIA SALTS
SCAMMONY RESIN

MORPHINE
CODEINE
STRYCHNINE
CAFFEINE
EMETINE
THEOBROMINE
CHLOROFORM

OPIUM
TELA VESICATORIA
VERATRINE
ATROPINE
CHRYSAROBIN
DIAMORPHINE
EMETINE
BISMUTH IODID.
EMP. CANTH. LIQ.
ETHYL MORPHINE
HYDROCHLOR.
ERGOTIN

Goods covered by Dangerous Drugs Acts offered subject to all regulations.

T. & H. SMITH L^{TD}

BLANDFIELD WORKS: 25 CHRISTOPHER STREET: 32 & 34 VIRGINIA STREET
EDINBURGH. : LONDON, E.C.2. : GLASGOW.

LEVER'S GLYCERINE

*Best for all pharmaceutical and
industrial purposes*

Our chemically pure glycerine is guaranteed to comply with all the requirements of the Food and Drugs Act and the British Pharmacopœia

Write for free sample to

LEVER BROTHERS LIMITED
Glycerine Dept., EP., 46 Chancery Lane, London, W.C.2

LG 9-200A

ARECA NUTS

SPOT AND FORWARD

BARKS—Cascara, Elm, Sassafras, Wild Cherry.
FLOWERS—Camomile, Elder, Lavender, Poppy, Pyrethrum, Rose.
LEAVES & HERBS—Bay, Belladonna, Digitalis, Henna, Horehound, Lobelia, Mint, Peppermint, Sage, Senna, Thyme.
ROOTS—Aconite, Angelica, Dandelion, Gentian, Hellebore, Licorice, Mandrake, Marshmallow, Orris, Podophyllum, Rhapontica, Senega, Squill, Turmeric.
SEEDS—Celery, Coriander, Cummin, Anise, Fennel, Quince.

VARIOUS—Cantharides, Cassia, Fistula, Ergot, Farina, Insect Powder, Licorice Juice, Orange Peel, Juniper Berries.

HORACE BATTIN & CO. Ltd.

Port of London Building, Seething Lane, LONDON, E.C.3
Telephone: Royal 4651/2. Telegrams: "Hobatco, Phone, London."

*Roche's
Pharmaceutical
Products*

TRADE MARKS:

'OMNOPON.'
'PITUGLANDOL.'
'DIGALEN.' ETC.

Trade Mark

'SEDOBROL'

Sedative Bouillon

TABLETS

are protected by the

P.A.T.A.

at prices which assure the retailer a
profit of 35.5% on cost.



THE HOFFMANN-LA-ROCHE CHEMICAL WORKS LTD.,
7 & 8, Idol Lane, LONDON, E.C.3.

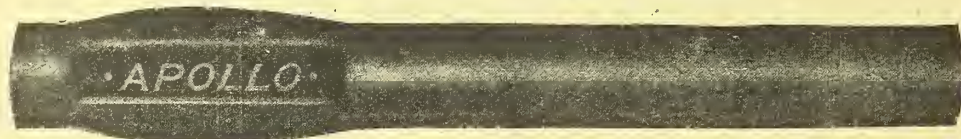
PURE LIQUORICE JUICE

APOLLO

Made by the **LARGEST LIQUORICE MANUFACTURERS IN THE WORLD.**
Pure Concentrated Extract of the Richest Root. Contains no added substance.
Very soluble, smooth to the tongue, and entirely free from grit. A well-shaped
attractive stick, carefully made under supervision of British staff. Not a sweet-
meat, but a **High-class Pharmaceutical Article.**

APOLLO IS VERY RICH IN GLYCYRRHIZIN.

In 4 lb. Cartons, 28 in a case. No charge for Bay Leaves.



MACANDREWS & FORBES, Ltd., BUSH HOUSE, ALDWYCH, LONDON, W.C.2

Telegrams: "Macforbes, Estrand, London."

ESTABLISHED 1857.

Telephone: City 8062

CHAS. PAGE & CO., LTD.

37/39 KING WILLIAM ST., LONDON, E.C.4

422/425 Royal Exchange, Manchester. 31 St. Vincent Place, Glasgow.

ACID LACTIC

HEXAMINE

ACID TANNIC

METHYL DITANNIN

AMMONIUM BROMIDE

POTASH BROMIDE

CALCIUM LACTATE

SODA BROMIDE

Manufactured by Byk-Guldenwerke Chem. Fab. Berlin.

WHOLESALE QUANTITIES ONLY.

TELEPHONES { HEAD OFFICE: CITY 5408 (10 lines).
MANCHESTER: CENTRAL 1882 (2 lines)
GLASGOW: CENTRAL 452.

TELEGRAMS { "PAGANINI LONDON."
"PAGANINI MANCHESTER."
"PAGANINI GLASGOW."

TELEPHONES:
ROYAL 2777
2778
2652TELEGRAMS:
"ASAFETIDA, BILGATE LONDON."**WHEELER & HUISKING LTD.****26 & 27 Great Tower Street
LONDON, E.C.3****AMERICAN BOTANICALS
DRUGS****ESSENTIAL OILS****SPICES
CHEMICALS****IMPORT and EXPORT***NEW ARRIVALS INCLUDE:*

ARROWROOT, St. Vincent	SASSAFRAS WOOD CHIPS
BAYBERRY BARK	SCAMMONY ROOT (Mexican) 17%
SLIPPERY ELM BARK	GRINDELIA ROBUSTA.
CURACOA ALOES	WITCH HAZEL EXTRACT "GOULD'S"

YOUR ENQUIRIES WILL HAVE OUR PROMPT ATTENTION.**ORIGINAL PREPARATIONS.****Registered in most of the industrial countries**

'ACIDOL'	'NEURONAL'
'ACIDOL-PEPSIN'	'NOVALGIN'
'ALBARGIN'	'OMNADIN'
'ALIVAL'	'OREXIN'
'AMPHOTROPIN'	'ORTHOFORM'
'ANAESTHESIN'	'PELLIDOL'
'BISMUTOSE'	OINTMENT
'DERMATOL'	'PYRAMIDON'
'GARDAN'	'RIVANOL'
'HEXOPHAN'	'SALYRGAN'
'HYPOPHYSIN'	'SILBERSALVARSAN'
'IODOL'	SULFOXYL-
'MELUBRIN'	'SALVARSAN'
'MIGRAININ'	'SUPRARENIN'
'NEOSALVARSAN'	'TONOPHOSPHAN'
'NEOSILBER-	'TUMENOL'
SALVARSAN'	'VALYL'

**SERUMS—VACCINES—TUBERCULINES
ANTIPYRINE—BARBITONE**

A. C. HENRY 19 St. Dunstan's Hill,
LONDON E.C.3**LECITHIN***Ex ovo. All strengths.***LECITHIN ALBUMEN PULV.
TINCTURE OF LECITHIN****Organotherapeutical
Preparations****Glandular Products****Ovarian Gland Substance
Testicular Gland Extract
Thyroid Gland***ACTUAL MAKERS:***AKTIENGESELLSCHAFT FÜR
MEDIZINISCHE PRODUKTE
Berlin, N.39***Agents for Great Britain and Colonies:—***Hugo Lorenz, Ltd.** 7/8 IDOL LANE,
LONDON, E.C.3
Telephone: ROYAL 1862.



CURES HEADACHE AND NEURALGIA

Practically everybody—at some time or other—suffers from headache. These people pass your shop every hour.

“DAISY” displayed in your window would make them enter. Whether they bought other things, too, would depend upon you. Show “DAISY” and get 50% to 100% clear profit on sure and immediate sales.

TERMS

1/- packets, each containing 8 powders—Minimum Retail price 1/-. Sample Powder 2d. For not less than 1 doz. boxes 9/9 per doz. For not less than 3 doz. boxes 9/2 per doz. 2/3 packets, each containing 20 powders—Minimum Retail price 2/3. For not less than 1 doz. boxes 21/6 per doz. For not less than 3 doz. boxes 20/6 per doz. Mixed orders for 1/-, 2/3, 6/- size and for “Daisy” Tablets on best terms. Discount 7½ per cent. for cash. *Carriage Paid to destination.* From all Wholesalers or direct.

DAISY, LTD. - HORSFORTH - LEEDS



ACNE, BOILS,
FURUNCULOSIS,
COMMON COLD,
SORE THROAT,
SKIN AFFECTIONS,
SEPTIC MOUTH,
OPHTHALMIA,
PSORIASIS,
RHEUMATOID
ARTHRITIS,
NEURITIS.

This treatise on Minor Maladies free on request to Pharmacists

Written by a Medical Practitioner, this booklet will be of the greatest assistance to those

Pharmacists requiring the latest information on the use and application of Colloids.

COOPER'S COLLOIDS

Colloid Argentum, Colloid Iron-Malt, Colloid Iodine, Colloid Sulphur, Colloid Zinc, Colloid Manganese and Colloid Bromum—have, in their respective spheres, been singularly successful, and the brochure illustrated,

in addition to proving their outstanding merits, gives full directions for their use.

It is felt that this booklet should be in the hands of all Pharmacists. Accordingly, it will gladly be sent on request.

BURGOYNE, BURBIDGES & CO. LTD., EAST HAM, LONDON, E.6

POISONS and PHARMACY ACT.

Privy Council Order, Jan. 1, 1921.

DANGEROUS DRUGS ACT, 1920.

Regulations of May 20, 1921. (Operative Sept. 1, 1921.)

**Dr. J. Collis Browne's
CHLORODYNE**

is not affected by above Order or Regulations.

It does not require purchaser's signature.**Proprietors: J. T. DAVENPORT, Ltd., 83/87 Union Street, S.E.1.****"HARROWER"****GLANDULAR
PREPARATIONS**

are the product of a Laboratory which deals with nothing else. They are "specialties" in the best sense of the word. Hence their value.

*Price List & complete details on request to:***ENDOCRINES, LTD.**

Sole Distributors for the Harrower Laboratory,
72 WIGMORE ST., LONDON, W.1

Himrod's
**ASTHMA
CURE***Established
50 years*

IT is a powder to be burned and the fumes inhaled without any bad after-effects. Recommended by physicians throughout the world.

"I have tried every remedy ever invented, and 'Himrod's Cure' is the only one in which I have absolute confidence."—EMILY FAITHFUL.

"This is an excellent remedy for Asthma."—Sir MORELL MACKENZIE (in his Clinical Lecture at the London Hospital and Medical College).

"The only relief I could get; if I had only known of it before."—LORD BEACONSFIELD, in his dying moments.

Himrod Manufacturing Company

SOLE PROPRIETORS,
**270 WASHINGTON STREET,
JERSEY CITY, N.J., U.S.A.**



The Triumphant Trio

New Year Boom

*Veno's proprietaries are not affected by
the new labelling of poisons regulations.*

Dr. Cassell's Tablets, Germolene and Veno's Lightning Cough Cure, are the finest profit-making trio ever offered to the trade.

IMMENSE AND IMPRESSIVE PRESS PUBLICITY.
HUGE AND ARRESTING POSTER CAMPAIGN.
MAGNIFICENT ADVERTISING BY CINEMA.
WONDERFUL WINDOW DRESSING HELP.

These Goods are sold before you get them.

Order Now !

THE VENO DRUG CO. (1925) LTD.

Manufacturing Chemists,
MANCHESTER.

Telegrams :
"Seaweed, Manchester."

Telephones :
Trafford Park; 496-497.

ANTIPHLOGISTINE



Write for quotation
and secure extra
discounts.

Write for quotation
and secure extra
discounts.

THE DENVER CHEMICAL MFG. CO.

41 ST. ANN'S ROAD

LONDON, E.3

DR. BOW'S
LINIMENT.
Prepared by his Great-Grandson.



(M. RANKEN BOW, Managing Director.)

RETAIL 3/-

The Gothic window and the name "DR. BOW'S LINIMENT" are Registered Trade Marks and appear on every bottle. Anyone using the name or any similar name is liable to be proceeded against.

The above label in Blue appears on outside wrapping.

DR. BOW'S LINIMENT, Ltd.

Works—7 South Gray St., Edinburgh,
Registered Office—Palace Chambers, London, S.W.1

DR. STEDMAN'S TEETHING POWDERS

P.A.T.A.



12/- boxes, containing 240 powders,
11/- each. 5% dis. off £5 for Cash.

125 NEW NORTH ROAD, LONDON, N.1.



CACHETS "FINOT"

(White or Coloured)

With inscriptions in any desired
tint; also Plain or Embossed.

"A distinction all their own."—C. & D.

"Perfection of Cachets."—Lancet.

These Cachets are especially adapted for Headache, Neuralgia
and other powders.

COOPER SON & CO. LTD., 89 Gloucester Road, SOUTH KENSINGTON.
In 17 Sizes to fit the various types of Cachet Machines.

**MELROSE
TABLETS**

FOR CHAPPED HANDS
A VERY PROFITABLE SELLING LINE.

Chemists' net prices carriage paid.

2d. tablets 1/4 dozen, 15/- gross. 5 gross
13/6 gross.

3d. tablets 2/- dozen. 6d. tablets 4/- dozen.

ROBERTS & SHEPPEY

2 Skipton Street, - LONDON, S.E.1.

Telephone : Mayfair 6030. **A.C.A.L.**

**ASSOCIATED CLINICAL AND
ANALYTICAL LABORATORIES, LTD.**
9 HARLEY MEWS SOUTH, WIGMORE ST., LONDON, W.1.

VACCINES, Autogenous and Stock. CULTURE MEDIA.
CLINICAL and Bacteriological Examinations.

NEPENTHE.

THE SAFEST AND BEST PREPARATION OF OPIUM.

The word "Nepenthe" is registered under the Trade Marks Act, and is our exclusive property. No substitute may be dispensed when "Nepenthe" is ordered in a prescription. "Nepenthe" comes within the regulations of the Dangerous Drugs Act, 1920.

FERRIS & COMPANY, LIMITED, BRISTOL.

SYRUP

ROBORANS

(ROBERTS)

Recognised by the Medical Profession as
THE BEST TONIC.Supplied in 8-oz. and 16-oz. Bottles by all the
Wholesale Houses.*Inquiries Invited for*
**NEW & RARE
MEDICINES***of French, Italian and Russian Origin.***ROBERTS & CO.,**
76 New Bond Street, London, W. 5 Rue de la Paix, Paris.

Good Wishes

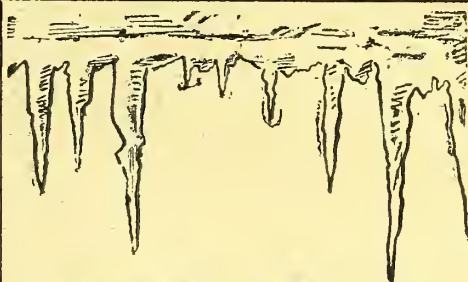
For over 60 years J.M. Smith & Co. (London) Ltd. have concentrated on **Service to the Chemist.** During that time we have made many firm friends. We hope to make many more. That our services *have helped* is proved by increasing business and letters we receive.

**Here is one tribute to
Happy Business Relations**

Dear Sirs, *Ashby-de-la-Zouch.*
Herewith please find cheque in full settlement of your account. Having sold my business to Messrs. ———, of ———, I should like to take the opportunity to acquaint you how very much I have appreciated your ever kindly business relations with myself in all the years I have done business with you. I cannot call to mind the least friction. If all firms were so kindly disposed, business would be much more pleasurable.—Believe me, yours with many appreciable thanks, (Signed) ———

J.M. SMITH & Co.
(LONDON), LTD.Hampton Chemical Works, Arthur St.,
Old Kent Road - LONDON, S.E.15

Tel. No.: New Cross 750.



"OLD MAN WINTER" HAS ARRIVED!

bringing with him a heavy cargo of wintry weather ills—Coughs, Colds, Asthma, Bronchitis, etc.; thus Lobelline, the wonderful cough cure, is in great demand! Are you getting YOUR share of Lobelline customers, or is your competitor getting ahead of you? Sooner or later you will be selling Lobelline. Why not NOW? Write for generous Trade terms of this well-advertised, profitable line.

**GEE'S
LOBELLINE**
*The Great Living Preserver***FOR COUGHS & COLDS**Bottles 1/3, 3/4, 5/6, P.A.T.A.
Lozenges 1/3 & 3/4, P.A.T.A.**Big National
Advertising
Scheme now
in full swing!
ORDER YOUR
SUPPLY OF
LOBELLINE
NOW!**

Sole Proprietors:

SQUIRE & CO.
BIRMINGHAM LTD.
Stirchley Laboratories,
BIRMINGHAM

Labelling of Poisons Order, 1924**Dr. J. Collis Browne's**
CHLORODYNE**Notice.** On and after January 1st, 1926, any Stocks of this Proprietary which do not bear the quantitative label required by the above Order may be returned to the Manufacturers or to Wholesale Suppliers for exchange.**J. T. DAVENPORT, Ltd., 83/87 Union Street, London, S.E.1****WHELPTON'S****PILLS
OINTMENTS
EMBROCATION****Hammerfield,
Hemel Hempstead.
December 17th, 1925.****THE LABELLING OF POISONS ORDER**

As none of our preparations contain any scheduled poisons, there will be no need to make any alteration or addition to any of our labels or wrappers.

G. WHELPTON & SON, LTD.**Labelling of Poisons Order****The Proprietors of****Beecham's Pills**

beg to notify the Drug Trade that Beecham's
Pills and Beecham's Cough Pills do not
contain any Poisons or Dangerous Drugs,
and consequently do not come under the
provisions of the above Order.

Labelling of Poisons Order, 1924

The greater number of "A. & H." and "Allenburys" specialities affected by the above Order have been correctly labelled for many years. It has been necessary in a few cases only to amend labels in order to bring them into conformity with the order.

For the information of any of our customers who are uncertain as to the correct labelling of any stocks they hold, the following details are given concerning a few of our most popular preparations.

"BYNIN" AMARA. "BYNO" HYPOPHOSPHITES. "BYNO" LECITHIN.

These have always been correctly labelled on the bottle.

THROAT PASTILLES.
"THE ALLENBURYS"

Nos. 9A, 24A, 24B, 29A, 29B, 44A, and 58A.

These are within the regulations of the Dangerous Drugs Acts; they are correctly labelled under the above Order.

THROAT PASTILLES.
"THE ALLENBURYS."

Nos. 1, 2, 3, 4, 5, 6, 9, 24, 25, 26, 29, 31, 35, 38, 40, 44, 50, 56, 58, 59, 61, 62, 63, 64, 67, 69, 70, 73, 74, 78, 79, 81.

These contain either Part 1 or Part 2 Poisons and are labelled with the *quantity* of poison in each pastille and the word "Poison." When retailed loose or when sold in tins the *number* of the pastilles in the package must also be indicated. The 3-oz. tins we are now sending out bear labels giving this information, *i.e.* 36.

"VAPO CRESOLENE" LIQUID. This should be labelled *on the bottle* "Vapo Cresolene contains 97% of Cresols Poison." We shall be pleased to send supplies of these labels upon receipt of the number required. (New stocks of "Vapo Cresolene" are correctly labelled and bear *on the carton* a label to that effect.)

If in doubt upon any question arising out of the Order, please write us.

ALLEN & HANBURYS, Ltd. Bethnal Green, London, E.2

LABELLING OF POISONS ORDER

In order to conform to the terms of this order it is necessary that any stock of the following medicines which have been supplied by us, should be returned to us, so that a proper label can be put on the bottle as well as on the outside of the package.

Aconitum N. ϕ .

Antim. Tart. 3X.

Arsen. Alb. 3X.

Belladonna ϕ .

Cantharides 1X & ϕ .

Gelsemium ϕ .

Hyoscyamus Nig. ϕ .

Ignatia Amara ϕ .

Merc. Biniod 3X.

Merc. Corr. 3X.

Nux. Vomica ϕ .

Opium ϕ & 1X.

Phosphorus 3X.

Veratrum ϕ .

LEATH & ROSS

Homoeopathic Chemists

317 HIGH ROAD, BRONDESBURY, LONDON, N.W.6.

"LABELLING OF POISONS ORDER, 1924."**HARVEY'S
GREAT****REMEDIES for the HORSE**

Only two of HARVEY'S REMEDIES are affected by the above Order, viz. :—

HARVEY'S ACONITE POWDERS
and
HARVEY'S WORM & CONDITION POWDERS

These are now labelled to comply with the Act.

We have gummed slips with the information required by the Order, and supplies can be had by any Chemist having old stock, from

HARVEY & COMPANY, Ltd. Dublin.

LABELLING OF POISONS ORDER.**BLAIR'S GOUT & RHEUMATIC PILLS.**

These Pills are now labelled in full compliance with the new regulations. Any old stocks still held by retailers on 1st January, 1926, when the regulations will be in force, may be returned to the Manufacturers or to Wholesale Suppliers for exchange.

PROUT & HARSANT, 37 Red Lion St., High Holborn, LONDON.

**PRICES OF CACHETS
REDUCED**

2/- per 1,000 all sizes and series

Special Quotations for Quantities.

Carriage Paid on 5,000.

Phone :
PARK 116.

CICERO S. CLARK, 12 RICHMOND ROAD,
LONDON, W.2

THE
Chemist and Druggist
SUPPLEMENT

is an infallible help when you want
to buy or sell a business, secure an
agency, an assistant or a situation, or

SELL SURPLUS STOCKS.

The Tariff is printed on the front cover of the Coloured Supplement.

Address all inquiries to—

The Publisher : **THE CHEMIST AND DRUGGIST,**
42 Cannon Street, LONDON, E.C.4.

Owbridge's

LUNG TONIC for COUGHS and COLDS

PRICE PROTECTED AT FACE VALUE.

NEW POISONS ORDER

Customers are informed that none of our preparations are affected by the above order which comes into force from January 1, 1926.

W. T. OWBRIDGE, LTD., The Laboratory, HULL.

The scientific bowel regulator endorsed by physicians



Points to Remember—

Agarol is the original mineral oil—agar-agar emulsion, and has these special advantages:

It is perfectly stable, odourless and palatable. It causes no gripping, nausea, or any disturbance of digestion or nutrition. It mixes freely with the bowel content; it lubricates without leakage of oil.

No limits of age, season or condition restrict the use of Agarol with safety. It contains no sugar, saccharine, alkalies, alcohol or hypophosphites.

THE enthusiastic reception of Agarol Brand Compound by physicians all over the country has been immediate and whole-hearted.

To give convincing proof of its worth, Agarol was put to the most severe test possible—samples were sent to thousands of physicians everywhere for experiment and test in their own practice.

Letters from these physicians have been pouring in ever since, full of praise for the successful results obtained.

Consistent circularising and medical journal advertising, as well as personal detail work, will continue to keep Agarol before the medical profession.

Highly gratified by the success of its use in even the most stubborn cases of constipation, more and more physicians are prescribing Agarol.

To meet the frequent and sustained demand thus created, every chemist should stock Agarol.

AGAROL BRAND COMPOUND

Distributing Agents for Great Britain:

FRANCIS NEWBURY & SONS, LTD., 31-33 Banner Street, London, E.C.1.

Prepared by WILLIAM R. WARNER & Co., Inc., Manufacturing Pharmacists Since 1856.

DOES IT WORK?

The acid test of any business organisation, as of a piece of machinery, is, does it work?

How it works and why it works do not arise until one is persuaded that it does work, and the only way to convince oneself of the fact is to see it work.

May, Roberts' Distributive Service is a case in point. You have heard a lot about it, but have you troubled to convince yourself by giving it the opportunity of working for you?

The object of organisation is to save time, which is money; to save labour, which also is money, and to ensure accuracy by eliminating as far as possible the risk of a mistake getting through.

In turning out a machine-made product, uniformity to pattern can be guaranteed because the working parts are of iron and steel, but in providing such service as distribution, one is using human brains and foresight as working materials, and check and countercheck are necessary to maintain efficiency.

Lest it might be thought that May, Roberts' Trumpeter is dead, listen to what one of our customers, whose Pharmacy is 123 miles from London, says:

"I should like to mention that I sent you an order on the 8th for 89 items. The goods were delivered here early on the 10th."

May, Roberts' does not claim to have attained perfection yet, but the fact that it is almost unknown for them to lose a customer once they have secured him goes to prove that they are hard to beat.

May we send you a copy of our New Catalogue and Terms.

MAY, ROBERTS & CO. Ltd. (Chemists' Sundriesmen)

(P.O. BOX 157)

7/13 CLERKENWELL ROAD - - LONDON, E.C.1

And at DUBLIN, LIVERPOOL and PLYMOUTH.

THE CHEMIST AND DRUGGIST SUPPLEMENT

42 CANNON ST.
LONDON E.C.4

DECEMBER 26, 1925.

This Supplement is inserted in every copy of The Chemist & Druggist.

THE SUPPLY OF SUPPLEMENTS.

The clerical work in connection with the posting of spare copies of the Coloured Supplement week by week has increased to such an extent that we have been compelled to reorganise our system of distribution. Our readers will please note, therefore, that in future, instructions can be accepted for not more than six successive issues of the Supplement at a time, and that in every case the name and full postal address should be written on

Post Office Wrappers, Stamped One Penny, to ensure prompt delivery.

Loose stamps will not be accepted.

CLOSING FOR PRESS.

ALL ADVERTISEMENTS INTENDED FOR
INSERTION IN THIS SUPPLEMENT

MUST REACH US
NOT LATER THAN

FIRST POST THURSDAY MORNING.

CHEMISTS' TRANSFERS.

Messrs. Orridge & Co., 56 Ludgate Hill, E.C.

Telephone No.: CITY 2283.

May be consulted at their Offices on matters of Sale, Purchase and Valuation.

1.—LONDON, E.—Cash Drug Stores; returns, under management of a lady, £15 weekly, with scope for large increase; single-fronted shop; two good rooms; stock and fixtures estimated at £350; rent, £2 weekly inclusive; price, £500; good opening for an energetic man.

2.—ESSEX (Suburban).—General Retail Business, with Kodak Agency; returns, under management, about £1,500; double-fronted corner shop, fitted in mahogany; store rooms and yard; rent, 10s. weekly; long lease; terms, valuation of stock and fixtures and sum for goodwill to be arranged.

3.—SOUTH LONDON.—Family Retail Business, with Kodak Agency; returns, about £2,250 at good prices; large shop, modern double-front, well fitted and stocked; eight-roomed house with garden; low rent on lease; price, £1,500 net; ill-health cause of sale.

4.—LONDON, N.W.—Good-class Retail and Dispensing Business, in main road position; returns, £1,120, increasing; net profit, £300; modern double-fronted shop, well fitted and stocked; net rent at present £18 per annum; further details on application; part payment entertained.

5.—KENT.—Drug Store; established 30 years; returns, £25 weekly; gross profit, 33½ per cent.; double-fronted shop, well stocked; 7-roomed house, side entrance; rent, £55; held on lease; price, £1,150; new railway station being opened in close proximity to the Pharmacy.

6.—BERKS.—Good-class Cash Retail and Photographic Business; very old established; returns, £1,550; net profit, £450; double-fronted shop; very well fitted and stocked; splendid house; large garden; held on lease at moderate rental; price to be arranged.

7.—NORTH-EAST COAST.—General Retail with Wine Licence; established many years; returns approach £7,000 per annum, at usual prices; large corner shop; heavily stocked; large com-

modious premises; held on lease; lump sum offer or valuation terms entertained.

8.—SOUTH COAST.—Middle-class Business, with Kodak Agency; very old established; returns exceed £3,000, at very good prices; modern double-fronted shop; convenient living accommodation; new lease will be granted; price £2,100 for quick sale; growing district.

9.—CO. DURHAM.—Family Retail and Dispensing Business for disposal owing to sudden death of Proprietor; returns, average £2,500, at good prices; lock-up pharmacy; new lease will be granted; valuation terms entertained.

10.—DENBIGH.—Unopposed Pharmacy, in charming village; returns between £750 and £800, under the management of a lady; lock-up shop; electric light; scope for considerable increase to anyone understanding agricultural trade; price, £350; stock and fixtures, £300.

11.—LANCS.—General Retail Business, with Wine Licence; established 50 years; returns, £2,400; gross profit, £850; good living accommodation; electric light; rent and rates, £90; held on lease; valuation terms entertained.

12.—MIDLANDS.—General Retail Business, with N.H.I. Dispensing; established 1871; returns this year, £1,500; net profit, £400 about; single-fronted shop, with living accommodation; rent, £50; held on lease; price, £1,000.

13.—YORKS. COAST.—Good-class Retail and Dispensing Business, with Photographic; returns exceed £1,300 per annum; net profit, £350; large double-fronted shop; rent, £60 yearly; held on lease; price, £1,150.

14.—HANTS.—General Retail Business with Photographic and N.H.I. Dispensing; returns, last year, £2,518; double-fronted shop; stock and fixtures estimated at £1,300 to £1,400; new lease will be granted, or freehold may be purchased; further details on application.

Messrs. O. & Co. desire to emphasize the necessity of a periodical Statement of Account by which means alone Profit, the value of Business, &c., can be determined. Involving as this does the labour of Stocktaking and Valuation, it is often omitted and eventually becomes confusion and loss.

Valuations for Stocktaking

Messrs. O. & Co. are prepared to undertake these essential duties and make Special Terms for such service.

ORRIDGE & CO., 56 LUDGATE HILL, LONDON, E.C.4

The Association of Mnfg. Chemists

— LIMITED —

Business Agency Transfer and Valuation Department,

Head Offices—Kimberley House, Holborn Viaduct, London, E.C.1 (and at 2 Bixteth Street, Liverpool)

PARKIN S. BOOTH, Accountant and Valuer. Phone: City 1261-2-3

BUSINESSES WANTED.

TWO Businesses, with returns of between £3,000 and £4,000 per annum, are required for cash buyers. Particulars will be treated in strictest confidence.

INVESTMENT.

AN OPPORTUNITY is available for investment of capital in Company manufacturing Specialities having a good and quick sale. Amalgamation with other manufacturing Company would be entertained.

BUSINESSES FOR DISPOSAL.

1.—SOUTH WALES.—Cash Retail Business in main street of good town; lease of 7 years at rental of £50 p.a.; returns, £30 p.w.; premises consist of good shop and five rooms, one of which is fitted as dark room and one as optical room; stock approximately £500; valuation terms. (23)

2.—S. DEVON.—Good-class ready-money Business in important town; returns, £30 p.w.; Kodak, N.H.I., etc.; d.f. shop, with 8-roomed house; price, including freehold property, £2,600. (14)

3.—SOUTH DEVON.—Very old-established Business in residential district of busy town; returns, £34 p.w.; rent, £90; lease to be arranged; double-fronted, well-fitted shop and house with 7 rooms; side entrance, store, etc.; price £1,450. (15)

4.—YORKS.—Cash Business, in main road, in important industrial town; 5 years' lease will be granted at £90 to £120 p.a.; returns, £30 per week; Kodak Agcy.; dwelling accommodation; price, goodwill, £450; stock, fixtures at valuation. (17)

5.—SOUTH COAST RESORT.—Cash Retail and Dispensing Business, situated on main road; premises consist of large lock-up shop, held on lease, 19 years to run at £170 per annum; handsomely fitted and good, saleable stock carried; returns, £2,000; scope for increase; price, £2,000 or near offer. Full particulars on application. (19)

6.—NORTHUMBERLAND.—Recently established Cash Pharmacy; Kodak Agency; lock-up shop; well fitted and stocked; returns average £14 per week; good opportunity for smart, energetic, qualified man. Full particulars on application.

7.—LANCS.—Small Drug Stores; lock-up shop with room at rear; rent, 13s. 6d. per week, including gas; established 2 years; returns, £8 per week; can be considerably increased. Full particulars on application. (21)

8.—GLAMORGANSHIRE.—Cash Ret. and Disp. Business; premises consist of lock-up shop with room at rear; held on lease, 4 years to run at £50 p.a.; est. 20 years; well-fitted; good stock carried; reason for disposal, ill-health; full pars. on appl'n. (22)

9.—YORKSHIRE.—Retail Dispensing Business; established 12 years; premises consist of shop and room at rear, two bedrooms above; lease 5 years; conveniently fitted and well-stocked; returns, £1,905; price for quick sale, £790. (26)

10.—BLAENAU FESTINIOG.—Retail Chemist; central position; well-fitted double-fronted shop; good living accommodation; takings at present £15 per week; lease will be granted.

11.—SURREY.—For immediate Disposal, Drug Stores; est. 20 years; d.f. shop with room at rear; well-fitted and stocked; lease would be granted; returns, £1,000 p.a.; all ready money; good scope for qualified man; price, £900 or near offer. (27)

12.—LANCS.—Retail Chemist; corner shop; well proportioned district; takings over £25 per week, now £14; N.H.I. £4 per week; rent, £60 p.a.; lease will be granted; full wine licence without restrictions; stock, £4,500; fixtures, £200. (30)

13.—HERTS.—Old-established Retail Chemist's Business; good stock; Kodak agency. Premises consist of lock-up shop with excellent fittings, property of the landlord; rent, £1 per week; lease will be granted; returns, £20 p.w., but under personal supervision, and with the addition of N.H.I. dispensing, this could easily be doubled. Low price for quick sale. (33)

Do you realise the importance of knowing the true value of your stocks and thus being able to arrive at the net working profit? We undertake this work for an inclusive fee at short notice. Chemists in the South, South Midlands, and South Wales, wishing to dispose of their business or desirous of obtaining particulars of businesses for sale, or inquiries as to valuation terms, are requested to communicate with Kimberley House, Holborn Viaduct, London, E.C.1.

Chemists in the North, North Midlands and North Wales, please write to 2, Bixteth Street, Liverpool.

BERDOE & FISH

WILLIAM S. FISH.

VALUERS AND TRANSFER AGENTS,

41 Argyle Square, KING'S CROSS, W.C.1

(one minute from St. Pancras and King's Cross Stations.)

1.—KENT COAST.—Good-class Cash Retail, with Kodak Agency; returns over £3,000; net profit £800; excellent position, with plenty of scope; handsome modern pharmacy, fully stocked; price for early sale £2,100; worth attention.

2.—EASTERN COUNTY.—Sound General, Retail, Agricultural, with Kodak Agency, in busy market town; returns over £2,500; gross profits over 35 per cent.; convenient premises; fully stocked. Applicants with about £1,400 will find this a very good investment.

3.—HANTS.—Very profitable Light Cash, Retail, with N.H.I.; in rapidly growing part of busy town; returns, £800; plenty of scope; low rent; long lease; selling through illness; price £600, or offer.

4.—YORKS.—Cash Retail and Prescribing, with N.H.I., in good position; returns, £35 a week; good profits; low rent; well-stocked shop; every investigation courted; price, £865.

5.—SOUTH COAST.—Good-class Drug Store; returns, £15 a week; fine chance for qualified; no near opposition; low expenses; stock worth £300; price for quick sale £250, plus stock at valuation.

6.—MANCHESTER.—Light Suburban Drug Store; returns average £25 a week; splendid opening for N.H.I.; low rent; corner shop; well fitted and fully stocked; house attached; same family 29 years; price £875; only requires seeing.

7.—LONDON, S.W.—Old-established Light Cash Retail, in good main road position; returns, average £1,400; plenty of scope; long lease, low rent; price, £900.

8.—LONDON, N.W.—Recently-opened light Cash Retail, returning £15 to £16 weekly; splendid unopposed position; will soon do double; good stock; price, £400; worth seeing.

STOCKTAKING VALUATIONS.

May we quote you a price for doing this important work? Stocktaking, to be of real use, should be done thoroughly, and with our experienced and expert staff we are able to guarantee this, at the same time carrying out the work quickly and without upsetting the general routine of business. We are now booking dates for January and onwards.

ESTABLISHED 1870.

Telephone: 651 Museum.

ERNEST J. GEORGE

Offers experienced service. Advice gratis

STOCK TAKING AND STOCK PRICING.
INCOME TAX DIFFICULTIES.
TRADING ACCOUNTS & BALANCE SHEETS.
LIMITED COMPANIES FORMED.
BUSINESS FOR SALE OR PURCHASE.

Stock Valuations now being booked for 1926 and as visits to all parts of Great Britain and Ireland are already arranged, Pharmacists need not hesitate on grounds of travelling expenses.

Write now: 3 St. Paul's Close, WALSALL
TELEPHONE 774 and 1000.

JOHN BRIERLEY

Valuer, Transfer Agent & Expert Stocktaker

135 Queen St., Newton Heath, Manchester

Don't broadcast your business, sell it quickly through a recognised agent who knows "HIS" business. (I specialise.)
Stocktaking, etc., efficiently undertaken by fully-qualified staff.
"FOR YOUR BETTER SERVICE." Phone Failsforth 113.

THOS. TOMLINSON & SON

CHEMISTS' VALUERS, TRANSFER AGENTS,
AND EXPERT STOCKTAKERS,

45a MARKET STREET, MANCHESTER.

ESTABLISHED OVER HALF A CENTURY.

Telegraphic Address: "Tomtom."

MY CHRISTMAS BOX

to all taking up my system of Business Increasing in next five weeks (Colonials twelve weeks) is, if booked for a year, 12 free showcards for your own three, six, or twelve best preparations in red and black.

Year's fee, £4 4s.; half-year, *pro rata*.

**BERNARD SLACK, 15 Christchurch Avenue,
West Didsbury MANCHESTER**

**PHARMACY AND POISONS ACT
(NORTHERN IRELAND) 1925.**

THE attention of all Pharmaceutical Chemists, Chemists and Druggists, Registered Druggists, Assistants to Pharmaceutical Chemists, and Apprentices to Pharmaceutical Chemists is directed to the terms of the above-mentioned Act, which provides:—

(1) For the registration of Pharmaceutical Chemists, Chemists and Druggists, Registered Druggists, Assistants to Pharmaceutical Chemists on the existing register, and Apprentices or Assistants to existing Pharmaceutical Chemists.

(2) That all Pharmaceutical Chemists, Chemists and Druggists, and Registered Druggists who are carrying on business as such must, in addition to effecting registration, take out a licence for each separate premises ON OR BEFORE THE 1st JANUARY, 1926.

The following registration and licence fees have been fixed in accordance with the provisions of the Act:—

	£	s.	d.
Registration fee for Pharmaceutical Chemists, Chemists and Druggists, Registered Druggists, Assistants to a Pharmaceutical Chemist, or Apprentices to a Pharmaceutical Chemist	0	5	0
Annual Licence fee for Pharmaceutical Chemists who keep open shop	3	3	0
Annual Licence fee for Chemists and Druggists, or Registered Druggists who keep open shop	2	2	0

Application for Registration and/or for Licence should be addressed to:—

The Registrar of the Pharmaceutical Society of Northern Ireland,

Ministry of Home Affairs,

Donegall Square East, Belfast,

together with the appropriate fees as above. Cheques, etc., should be made payable to "The Ministry of Home Affairs."

It will facilitate the work of registration and the issue of licences if the following instructions are followed:—

(1) Applicants for licences or registration should supply their surname and Christian names (in full), written in block capitals.

(2) In the case of Pharmaceutical Chemists, Chemists and Druggists, and Registered Druggists, application for registration and licence should be made at the same time.

(3) Pharmaceutical Chemists, Chemists and Druggists, Registered Druggists, and Assistants to Pharmaceutical Chemists, registered as such prior to 21st of DECEMBER, 1925, but whose names do not appear in the copy of Registers printed in the 1925 Calendar of the Pharmaceutical Society of Ireland, should transmit with their applications certificates of qualification or copies of such Certificates duly certified.

(4) All those who desire to be registered as Apprentice to a Pharmaceutical Chemist should transmit with their application their Preliminary Certificate.

19th December, 1925.

PREMISES FOR SALE.

6s. for 50 words or less; 6d. for every additional 10 words or less, prepaid.

FOR Sale, Freehold Double-fronted Shop, with ample living accommodation, in the centre of thickly-populated mining district near Bishop Auckland; possession on completion. Apply 203/2, Office of this Paper.

APPRENTICESHIP.

APPRENTICESHIP required from May, 1926, in London, for young Parsee from Bombay; character and credentials vouched for by leading wholesale house. Write 76/514, Office of this Paper.

Price lists, trade circulars, samples, and printed matter can in no case be forwarded, the Box numbers being intended exclusively for specific answers to particular advertisements. The Publisher reserves the right to open and refuse to forward any communications received which he may consider contrary to this rule.

BUSINESSES FOR DISPOSAL.

6s. for 50 words or less; 6d. for every additional 10 words or less, prepaid.

LEEDS.—No. 1: Old-established Chemist's, Retail and Dispensing; returns for 11 months £1,550, including N.H.I. (1,000 monthly); 5-room house; bargain at £850. No. 2: Old-established Drug Stores and Photography; large corner shop; nicely fitted; 5-room house; turnover £1,000; good opening for qualified man; price £700, or reasonable offer. These are well worth investigation. Chas. Marsden, Chemists' Valuer, 44 Shole-broke View, Leeds.

NORTH-EAST.—Mixed Business; Kodak Agency; good connection and side lines; last year's gross takings £2,000; certified accounts; good N.H.I.; approximate price £500 quick sale; other business. Apply 210/35, Office of this Paper.

SOUTH COAST.—Old-established, beautifully fitted Pharmacy; good stock and fixtures; growing district; main road; long lease; returns about £3,000 per annum; profitable and sound; investigation willingly; proper reason for disposal; good house, side and back entrance; price £2,150, or reasonable offer accepted. 208/3, Office of this Paper.

YORKSHIRE (country town).—Family Retail Business, with Kodak Agency; returns over £1,700; under management; rent and rates £52; nicely fitted and well stocked; good living accommodation. Apply 211/27, Office of this Paper.

POPULAR Health Resort, North-East Coast.—Good-class Retail and Dispensing Business, with Kodak Agency; scope for considerable increase; large shop, excellent main road position, in rapidly growing residential district; well fitted and stocked; rent £60; held on lease; £1,050. Particulars to bona-fide inquiries. 211/24, Office of this Paper.

THE proprietor of a well-known and absolute Specific for preventing the attacks of all Insect Pests is open to receive offers for the Original Formula or to make arrangements for its manufacture and marketing on mutual basis. The preparation has been on the market for many years, and already commands an extensive sale. Apply P.C.B. 54/9, Office of this Paper.

SITUATIONS OPEN.**RETAIL.****[HOME.]**

6s. for 40 words or less; 6d. for every additional 10 words or less, prepaid.

DEVON.—Qualified Chemist required, age about 35 to 40, capable of taking charge; well recommended and accurate Dispenser; house provided (off premises); start duties January 18, 1926. Please send fullest particulars, together with photograph, to Messrs. H. Stephens, Ltd., Plympton, Devon.

MIDLANDS.—Required, early January, experienced qualified Chemist to manage busy branch; Light Retail and Dispensing; living accommodation available; splendid opportunity for live man accustomed to modern display methods. 211/22, Office of this Paper.

I HAVE an opening for a qualified man as Branch Manager in London suburb; must be a willing worker, with tact and initiative; there is every opportunity for a man of ability to make a good position for himself. Apply, with full particulars, to 76/525, Office of this Paper.

JUNIOR Assistant, well trained, Dispensing and Counter work; good middle-class business; required early in January. Full particulars and references to J. Austin Bayes, Ltd., 25 Clifton Road, Rugby.

JUNIOR or Improver wanted after Xmas in Family and Dispensing business in Surrey; easy hours. Please state in first letter full particulars, including age, salary required (outdoors), experience, and references to 211/8, Office of this Paper.

LADY Dispensers (Hall Certificate) required for Chelmsford, West Ealing, and Enfield districts; Counter experience an advantage. Write fullest particulars and photograph to Parker Chemists, Ltd., 65 Harwood Street, N.W.1.

MANAGER, qualified, wanted for good-class branch at Ilford early in New Year; outdoors. Apply, stating age, experience, salary expected, etc. (photo if possible), to T. Bellamy, Pharmaceutical Chemist, Chelmsford.

MANAGER required for good-class branch in London, N.W.; must be early available; good prospects for capable and enterprising man. 211/21, Office of this Paper.

QUALIFIED lady for Dispensing and Counter, Dorset, to work under Manager. 209/30, Office of this Paper.

REQUIRED shortly, unqualified Assistant for mixed business in country town to keep books and assist at Counter; must have knowledge of Drug trade and undeniable references; elderly man desiring permanency not objected to if active; easy hours; no Sunday or extra duty. Apply 212/2, Office of this Paper.

REQUIRED, unqualified Assistant for good-class Dispensing business to keep books and assist at the Counter; must have undeniable references. Apply, giving full particulars, to Graham, Chemist, 10 Station Parade, Willesden Green.

WANTED, qualified Manager, age about 40 years; references. Apply 213/6, Office of this Paper.

WHOLESALE.

6s. for 40 words or less; 6d. for every additional 10 words or less, prepaid.

CHEMIST wanted for works to make Toilet Cream. Apply after 11 o'clock in the first instance to 30 Belsize Park, Hampstead, or 'phone Hampstead 5911.

ESTABLISHED Manufacturers of many special lines are about to appoint Representatives in London, South Coast, Wales, Midlands and Potteries, and invite applications from smart salesmen who are already covering these areas and require additional lines. Applications, giving details, which will be treated as absolutely confidential, to 199/10, Office of this Paper.

MANAGER wanted for Packed Goods Department, Provincial Drug House; good knowledge of the Drug trade essential. 211/20, Office of this Paper.

PEPPERMINT OIL.—An Expert in re-distilling Japanese Peppermint Oil is required to develop a new enterprise. Write to "W. H.," 76/526, Office of this Paper.

REPRESENTATIVE required by firm of Wholesale Chemists and Druggists (Glasgow); experience of trade and connection in West of Scotland essential. Give full particulars and references, wage basis, turnover, etc. 205/24, Office of this Paper.

WANTED at once in Wholesale Patent Medicine Warehouse, a young, experienced, energetic and capable Stock-keeper; unmarried. Apply 76/524, Office of this Paper.

[COLONIAL, INDIAN AND FOREIGN.]

S. AFRICA.—Wanted for Johannesburg (Transvaal), an experienced fully qualified Chemist's Assistant. Give full particulars to 76/523, Office of this Paper.

SITUATIONS WANTED.

RETAIL.

[HOME.]

2s. for 18 words or less; 6d. for every additional 10 words or less, prepaid.

The ADVERTISER may if preferred have replies addressed to this Office, and forwarded on payment of an additional charge of 1/-.

A CHEMIST-OPTICIAN will accept moderate salary and commission on Optics; disengaged. "C.," "Clearmount," Dorchester.

ASSISTANT, unqualified, 23, Counter, Dispensing and Photographic, requires position after Xmas; excellent references. 211/29, Office of this Paper.

ASSISTANT or Junior, 21, good experience, Counter, Dispensing, Window-dressing, and Photography, excellent references, seeks post, home or abroad. 213/4, Office of this Paper.

DISPENSER-BOOK-KEEPER; Hall; 8 years' experience, Hospital, Dispensary, and Private Practice; part or full time; moderate salary. Miss L. Collins, "Penang," London Road, Chertsey, Surrey.

JUNIOR requires situation; chiefly Dispensing and Stock; London preferred, but not essential. 209/27, Office of this Paper.

LADY, young, tall, age 19; shortly disengaged; 4 years' experience; Counter and Stock; no Dispensing; W. or S.W. London. "Page," 346 York Road, Wandsworth, S.W.18.

LADY Dispenser (qualified) desires post in Hospital, with Doctor, or with Chemist; kindly state hours and salary. N. M. Tooley, c/o Bell, Pharmacist, Mansfield.

LADY; unqualified; 8 years' experience, Retail Dispensing, etc.; disengaged January 6. "F.," 3 Chesnut Street, Loughborough.

MANAGER or Senior, qualified, Scot, 33, all-round experience, including Photography, desires permanency; disengaged January 2. 211/18, Office of this Paper.

PHARMACIST, young, desires situation as Manager with view to early succession or Partnership; South or South-West. 208/2, Office of this Paper.

QUALIFIED, good experience, London and country, as Manager, Assistant or Cover; elderly; excellent references; disengaged January 2. J. McLanachan, 55 Ryan Street, West Bowling, Bradford.

UNQUALIFIED; 8½ years' experience, Counter, Dispensing, Photography; age 26; excellent references; £3 weekly; disengaged. Wellington, 41 Geraldine Road, Wandsworth.

YOUNG, qualified, good experience, desires post as Manager or Assistant; anywhere but London; married; keen and energetic; disengaged shortly. 213/5, Office of this Paper.

MISCELLANEOUS.

10s. for 60 words; 1s. for every additional 10 words or less.

The ADVERTISER may if preferred have replies addressed to this Office, and forwarded on payment of an additional charge of 1/-.

CHEMIST'S Fittings (second-hand), also new.—Ranges of Drug Drawers, Dispensing Screens, Glass-fronted Counters, Wallcases, Centre Cases, and All Glass Counters; Counter Cash Tills from 25s. The "Kwik-Sale" Case, made specially for Chemists' Counters, with slope front and mirror sliding doors at back, 3 ft. long, price £5 10s. D. MATTHEWS & SON, Chemist Fitters, 14 and 16 Manchester Street, Liverpool.

SECOND-HAND CHEMISTS' FITTINGS.—We have an exceptionally fine selection of these in all sizes; prices are right, and goods are in first-class condition; we shall be pleased to supply particulars and prices. Call or write, RUDDUCK & CO., 262 Old Street, London, E.C.2.

SHOPFITTINGS (SECOND-HAND).—A complete set of high-class mahogany Chemists' Fittings, just removed from a small West-End shop; also a complete set in oak. Prices and details on application. H. MILLS & SONS, LTD., Shopfitters, 163/5 Old Street, London, E.C.1.

£135.—COMPLETE SET OF FITTINGS.—Could easily be adapted to fit almost any sized shop. A great bargain. 20 ft. Drug Fitting containing 144 drawers in lower part, with lockers and cupboards, glass cases and mirrored poison cupboard and shelves in upper part; 15 ft. Counter with cases in front fitted glass shelves, drawers at back; 3 ft. Wall Show Case; Perfumery Showcase; 6 ft. very handsome Dispensing Screen. Counter Cases; Cash Desk; ready for immediate despatch. PHILIP JOSEPHS & SONS, LTD., 93 Old Street, London, E.C.1.

LIMITED COMPANIES REGISTERED.

—I have now been engaged in this work over 20 years, so you may rely that my experience in Chemist and other Companies (I take all trades) is hard to beat. Most reasonable and inclusive fee. Advice free.—A. B. SLACK, 15 Christ Church Avenue, West Didsbury, Manchester.

EXCHANGE COLUMN.

2d. per word: Minimum 2s.

WANTED.

GOWER, Chemists' Bookseller, 41 Voltaire Road, Clapham, wants Pharmaceutical Books and Students' Requisites.

A LARGE COPPER BOILING PAN, capacity 80 to 100 gallons, fitted with a steam jacket, for use in Manufacturers' Laboratory. Apply "B. J. W.," 76/518, Office of this Paper.

Stimulating preparations— used externally

Of all the various types that are offered none gives greater satisfaction than the compound here presented under the old-fashioned and unassuming title

HOUSEHOLD EMBROCATION

A perfect and permanent combination of oil of turpentine, methyl salicylate and acetic acid, emulsified with fresh eggs.

Apart from domestic uses, this embrocation is a very popular favourite among those who are liable to overstrained muscles in the more vigorous sports of Autumn and Winter



Packed in plug-stoppered, wide mouth flats, lithographed labels and cartons in colours as illustrated.

3 oz. size,
7/-
per dozen.

6 oz. size,
9/9
per dozen.

It is readily and completely absorbed, therefore cleanly in use. By its thick, creamy consistency it is readily confined to the desired area. Preliminary treatment is unnecessary. Its lubricating properties constitute a valuable aid to massage. Action may be controlled within wide limits, without risk of blistering.

Our output has increased TENFOLD in the past few seasons, and, having installed new plant, we can quote attractive terms for quantity in bulk.

WRIGHT, LAYMAN & UMNEY
SOUTHWARK LIMITED, LONDON, S.E.1

USE MORE PICTURES

IN YOUR PRESS ADVERTISEMENTS, CIRCULARS, etc.

DUBARRY'S
Toilet Luxuries
Scented with
"The HEART of A ROSE"
Perfume

The Exquisite Dubarry Perfume
"THE HEART OF A ROSE"

POUDRE Dubarry
The Ideal Face Powder

Solid Face Powder
In Vanity Box

TALCUM—For use after the Bath

Bath Salts Tablets

Complexion Soap
For a Perfumed Bath

UNDOUBTEDLY the public respond quickest to the pictorial appeal. It is the only universal language that *all* understand and *all* appreciate. "Illustrate everything" should be the rule.

TWO FAMOUS SERIES

of Dubarry Toilet Luxuries are here illustrated. These line blocks, newspaper single column width, suitable for printing on any kind of paper, can be supplied to our customers at the nominal price of 2/6 each, credited in full when returned.

MANY DOZENS OF DIFFERENT DESIGNS ARE AVAILABLE.

DUBARRY'S
Toilet Luxuries
Scented with
"A BUNCH of VIOLETS"
Perfume

The Exquisite Dubarry Perfume
"A BUNCH of VIOLETS"

POUDRE Dubarry
The Ideal Face Powder

Solid Face Powder
In Vanity Box

TALCUM—For use after the Bath

Bath Salts Tablets

Complexion Soap
For a Perfumed Bath

